

AD-A104 106 ARMY ENGINEER DISTRICT PHILADELPHIA PA
SPECIAL FLOOD HAZARD REPORT: UNAMI CREEK AND TRIBUTARIES, BUCKS--ETC (U)
JUN 76
UNCLASSIFIED DAEN/NAP-82040/SFH04-76/0

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SPECIAL FLOOD HAZARD REPORT

UNAMI CREEK AND TRIBUTARIES

BUCKS AND MONTGOMERY COUNTIES, PA

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION UNLIMITED.



June 1976



PREPARED FOR
BUCKS COUNTY PLANNING COMMISSION
BY
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

REPT. NO: DAEN/NAP- 82040 /SFH 04 -76/06

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TO THE REQUESTOR:

This Flood Plain Information (FPI) Report was prepared by the Philadelphia District office of the U.S. Army Corps of Engineers, under the continuing authority of the 1960 Flood Control Act, as amended. The report contains valuable background information, discussion of flood characteristics and historical flood data for the study area. The report also presents through tables, profiles, maps and text, the results of engineering studies to determine the possible magnitude and extent of future floods, because knowledge of flood potential and flood hazards is important in land use planning and for management decisions concerning floodplain utilization. These projections of possible flood events and their frequency of occurrence were based on conditions in the study area at the time the report was prepared.

Since the publication of this FPI Report, other engineering studies or reports may have been published for the area. Among these are Flood Insurance Studies prepared by the Federal Insurance Administration of the Federal Emergency Management Agency, Flood Insurance Studies generally provide different types of flood hazard data (including information pertinent to setting flood insurance rates) and different types of floodplain mapping for regulatory purposes and in some cases provide updated technical data based on recent flood events or changes in the study area that may have occurred since the publication of this report.

It is strongly suggested that, where available, Flood Insurance Studies and other sources of flood hazard data be sought out for the additional, and, in some cases, updated flood plain information which they might provide. Should you have any questions concerning the preparation of, or data contained in this FPI Report, please contact:

U.S. Army Corps of Engineers
Philadelphia District
Custom House, 2nd and Chestnut Streets
Philadelphia, PA 19106

ATTN: Flood Plain Mgt. Services Branch, NAPEN-M

Telephone number: (215) 597-4807

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This special flood hazard information report was undertaken by the U.S. Army Corps of Engineers Philadelphia District at the request of the Bucks County Planning Commission. It covered the Unami Creek from its confluence with the Perkiomen Creek in Marlborough Township, Montgomery County to the study limit at Trolley Bridge Road, Milford Township, Bucks County, Pa. at a distance of 15.9 miles. Tributaries to the Unami Creek also studied in this report include Schmoutz Creek,		

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

Molasses Creek and Licking Creek.

The hydrology, hydraulics and drainage areas of the creek were described. The data included peak flows for the 10, 50, 100 year floods, rise and duration of flooding and flood profiles.

The information given within the scope of this report should be considered for its historical value. Since the publication of this report other flood insurance studies have been undertaken and should also be consulted for current information.

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SPECIAL FLOOD HAZARD INFORMATION REPORT

UNAMI CREEK AND TRIBUTARIES,

BUCKS AND MONTGOMERY COUNTIES, PENNSYLVANIA

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SPECIAL FLOOD HAZARD INFORMATION REPORT

UNAMI CREEK AND TRIBUTARIES,

BUCKS AND MONTGOMERY COUNTIES, PENNSYLVANIA

1.0 AUTHORITY FOR STUDY

This Special Flood Hazard Information Report was undertaken at the request of the Bucks County Planning Commission with the indorsement of the Pennsylvania Department of Environmental Resources. This report was prepared by the Philadelphia District, U. S. Army Corps of Engineers under continuing authority provided in Section 206 of the 1960 Flood Control Act as amended.

2.0 DESCRIPTION OF AREA AND LIMITS OF STUDY

This report covers the Unami Creek from its confluence with the Perkiomen Creek in Marlborough Township, Montgomery County, to the study limit at Trolley Bridge Road, Milford Township, Bucks County, Pennsylvania, a distance of 15.9 miles. The flood plain varies along the entire stream but is generally characterized by gently rolling hills occasionally giving way to areas where the side slopes are extremely steep. Due to the rural nature of the area, many of the overbanks are covered with brush and trees. Although the land adjacent to the stream is primarily undeveloped, there are some homes and a Boy Scout Camp along the stream. In addition to that portion of Unami Creek within Bucks County, this report also contains information on Unami Creek in Montgomery County.

Tributaries to the Unami Creek also studied in this report include Schmoutz Creek, Molasses Creek and Licking Creek. The study areas of Unami Creek and its Tributaries are shown on the General Map. A tabulation of stream mileages and respective drainage areas can be found in Table 1.

3.0 DESCRIPTION OF WORK

3.1 Surveys

Field surveys, including stream profiles, cross sections and bridge measurements were performed by the Philadelphia District, U. S. Army Corps of Engineers.

3.2 Hydrology

There are no stream gages located on Unami Creek to record historical flood events. The hydrologic analysis consisted of formulating a rainfall-runoff model for the entire Unami Creek Basin using the Corps of Engineers' HEC-I Computer Program, Flood Hydrograph Package. Using the model, hydrographs were computed and peak flows determined from frequency rainfall distributions for hypothetical storms having recurrence intervals of 10-, 50-, and 100-years. The 100-Year Flood is defined as the flood which occurs once in 100 years on the average and has a 1% chance of being equalled or exceeded in any year. Peak flows for the 500-Year Flood were obtained by extrapolating the discharge-frequency curve computed for flood events up to the 100-Year Flood and by comparison with Corps of Engineers' Standard Project Flood calculations. A tabulation of peak flows for Unami Creek and its Tributaries is given in Table 2.

3.3 Hydraulics

Water surface profiles for the 10-, 50-, 100-, and 500-Year Flood events for the Unami Creek and its Tributaries were computed using the Corps of Engineers' HEC-II Backwater Program. Starting water surface elevations for the Unami Creek were obtained through analysis of flooding conditions and backwater effects of the Perkiomen Creek. Similarly, starting water surface elevations for Unami Creek Tributaries were obtained from corresponding flood elevations on the Unami Creek. Water surface profiles shown in this report were developed based on existing conditions of the watershed at the time field surveys were performed. During an actual flood, debris collecting on bridges and culverts could decrease their water-carrying capacity and cause backwater effects upstream of these structures. However, since the location and extent of debris accumulation are impossible to predict, it was necessary, for the purposes of this report, to assume that bridge and culvert openings would remain unobstructed. In addition to bridges and culverts, there are 9 small dams located on Unami Creek within the study area. These dams have essentially no flood storage capacity, nor will they significantly alter the flow characteristics of floodwaters. Water surface profiles thus developed can be found on Plates 2 through 17. A tabulation of flood elevations at all bridges and culverts can be found in Table 3.

Typical stream cross sections on Unami Creek and its Tributaries and respective water surface elevations for the four frequency flood events are shown on Plates 18 and 19. Maximum

velocities of flow which are expected to occur at these selected cross sections are given in Table 4. Predicted rates of rise and duration of flooding for the 100-Year Flood on the Unami Creek is shown in Table 5.

4.0 ACKNOWLEDGMENTS

The assistance and cooperation of the Bucks County Planning Commission and private citizens in supplying data for the preparation of this report are appreciated.

Additional copies of this report can be obtained from the Bucks County Planning Commission. The Philadelphia District Office of the Corps of Engineers, Department of the Army, will upon request provide technical assistance to planning agencies in the interpretation and use of the data presented as well as planning guidance and further assistance, including the development of additional technical information.

TABLE 1
DRAINAGE AREAS
UNAMI CREEK AND ITS TRIBUTARIES

<u>Location</u>	Feet Above Mouth	Drainage Areas	
		<u>Tributary</u> sq. mi.	<u>Total</u> (a) sq. mi.
<u>Unami Creek</u>			
Confluence with Perkiomen Creek	0	---	48.8
Schmoutz Creek	46,815	3.79	24.3
Molasses Creek	53,000	3.40	19.7
Licking Creek	64,170	3.59	9.7
<u>Schmoutz Creek</u>			
Confluence with Unami Creek	0	---	3.8
<u>Molasses Creek</u>			
Confluence with Unami Creek	0	---	3.4
<u>Licking Creek</u>			
Confluence with Unami Creek	0	---	3.6

(a) Includes tributary.

TABLE 2
PEAK FLOWS FOR THE 10-YEAR, 50-YEAR, 100-YEAR AND 500-YEAR FLOODS
UNAMI CREEK AND ITS TRIBUTARIES

<u>Location</u>	Feet Above <u>Mouth</u>	<u>Drainage Area</u> sq. mi.	<u>Discharges</u>			
			10- Year <u>Flood</u> cfs	50- Year <u>Flood</u> cfs	100- Year <u>Flood</u> cfs	500- Year <u>Flood</u> cfs
<u>Unami Creek</u>						
Confluence with Perkiomen Creek	0	48.8	8,000	12,000	20,200	35,000
Downstream of confluence with Schmoutz Creek	46,815	24.3	4,900	9,800	12,700	21,500
Downstream of confluence with Molasses Creek	53,000	19.7	4,500	9,200	11,900	19,200
Downstream of confluence with Licking Creek	64,170	9.7	2,400	5,200	6,900	12,000
<u>Schmoutz Creek</u>						
Confluence with Unami Creek	0	3.8	1,060	2,300	3,000	5,100
<u>Molasses Creek</u>						
Confluence with Unami Creek	0	3.4	1,060	2,300	3,000	5,100
<u>Licking Creek</u>						
Confluence with Unami Creek	0	3.6	1,060	2,300	3,000	5,100

TABLE 3
ELEVATION DATA
BRIDGES ACROSS UNAMI CREEK AND ITS TRIBUTARIES

<u>Identification</u>	<u>Feet</u>	<u>Underclearance</u> <u>Elevation</u>	<u>Water Surface Elevation (a)</u>	
	<u>Above</u> <u>Mouth</u>		<u>100-Year</u> <u>Flood</u>	<u>500-Year</u> <u>Flood</u>
		<u>Feet - Mean Sea</u> <u>Level Datum</u>	<u>Feet - Mean Sea Level</u>	Datum
<u>Unami Creek</u>				
Reading RR	150	192.9	191.6	197.9
Perkiomenville Road	1,325	190.9	194.6	200.1
Pa. Rte. 63	9,410	208.5	215.7	219.6
Swamp Creek Road	13,220	216.4	223.7	226.9
Price Road	24,945	314.0	322.0	325.5
Swamp Creek Road	29,200	324.2	330.7	334.4
Upper Ridge Valley Road	36,145	416.0	421.1	424.1
Nursery Road	40,590	424.0	428.9	432.1
Pa. Turnpike, N.E. Extension	42,650	439.8	431.8	435.4
Trumbauersville Road	43,880	429.3	432.9	436.3
Kumry Road	51,515	441.3	445.9	446.5
Allentown Road	58,180	463.9	463.7	466.2
Private Road	61,880	481.1	483.2	487.7
Milford Square Pike	62,200	482.0	485.6	489.4
Pa. Rte. 663	64,040	491.3	495.5	497.3
Private Road	65,960	494.9	500.1	500.9
Mill Pond Road	69,670	513.8	515.7	516.6
Brick Tavern Road	72,210	523.0	527.5	528.6
Private Road	73,175	529.1	531.5	532.7
Wieand Road	76,275	551.6	555.8	556.8
Rosedale Road	76,925	558.0	562.4	563.6
Grant Road	79,425	582.1	584.7	585.3
Trolley Bridge Road	84,010	663.5	665.3 (b)	665.6 (b)
<u>Schmoutz Creek</u>				
Pa. Turnpike, N.E. Extension	2,190	445.5	441.1	444.3
Doerr Road	2,840	443.2	442.8	447.0
Walnut Lane	5,485	450.4	455.6	456.5

TABLE 3 (Continued)
ELEVATION DATA
BRIDGES ACROSS UNAMI CREEK AND ITS TRIBUTARIES

<u>Identification</u>	<u>Feet</u>	<u>Underclearance</u>	<u>Water Surface Elevation (a)</u>	
	<u>Above Mouth</u>	<u>Elevation</u>	<u>100-Year Flood</u>	<u>500-Year Flood</u>
		<u>Feet - Mean Sea Level Datum</u>	<u>Feet - Mean Sea Level Datum</u>	
<u>Schmoutz Creek (continued)</u>				
Kumry Road	7,740	465.6	464.3	467.5
Private Road	9,645	477.9	480.4	481.0
Brinkman Road	12,375	492.4	495.3	496.0
Pa. Rte. 663	13,115	498.6	505.3	511.8
Sleepy Hollow Road	15,240	515.8	519.7	520.4
Angstadt Road	16,535	526.9	530.1	530.7
Private Road	16,985	530.9	536.0	536.7
Private Road	17,280	535.8	540.5	541.2
Angstadt Road	17,580	539.4	543.2	543.8
Erdman Road	18,110	542.6	546.2	547.0
County Line Road	21,640	597.9	602.2 (b)	602.9 (b)
<u>Molasses Creek</u>				
Rosenberger Road	1,980	461.1	464.9	465.8
Pa. Turnpike, N.E. Extension	5,040	516.4	510.3	513.8
Pa. Rte. 663	7,690	522.3	521.4	524.9
Steinburg Road	11,720	539.1	541.6 (b)	542.0 (b)
<u>Licking Creek</u>				
Allentown Road	30	491.4	495.7	497.4
Weiss Road	5,215	515.8	518.9	519.6
Private Road	8,455	545.9	551.4	552.6
Baumanns Road	9,530	556.2	560.6	561.4
Steinburg Road	10,180	569.4	571.9	575.9
Joann Road	13,180	608.5	613.9	614.6
Cassel Road	15,670	644.5	645.2	648.8 (b)

(a) Flood elevations are listed for the upstream side of the bridge.

(b) Flood elevations for downstream side of bridge.

TABLE 4
MAXIMUM VELOCITIES
UNAMI CREEK AND ITS TRIBUTARIES

Cross Section	Feet Above Mouth	Maximum Velocities			
		100-Year Flood		500-Year Flood	
		Channel ft/sec	Overbank(a) ft/sec	Channel ft/sec	Overbank(a) ft/sec
<u>Unami Creek</u>					
2	2,475	13.2	7.8	15.0	8.9
5	16,060	13.1	2.8	15.3	4.0
11	43,635	6.5	2.5	7.3	3.3
17	75,060	4.1	2.4	5.1	3.1
<u>Schmoutz Creek</u>					
20	3,775	2.5	0.9	1.7	0.7
22	11,035	10.3	5.1	12.1	6.3
<u>Molasses Creek</u>					
26	3,340	9.8	4.1	5.0	11.2
<u>Licking Creek</u>					
31	4,725	7.3	3.2	3.6	7.4

(a) Value given is maximum of left or right overbank velocity.

TABLE 5
 RATES OF RISE AND DURATION OF FLOODING
 UNAMI CREEK
 100-YEAR FLOOD

<u>Location</u>	<u>Feet Above Mouth</u>	<u>Maximum Rate of Rise</u> <u>ft/hr</u>	<u>Height of Rise</u> <u>ft</u>	<u>Time of Rise</u> <u>hrs</u>	<u>Duration of Critical Stage</u> <u>hrs</u>
Cross Section 2	2,475	1.2	10.8	11.3	25.1

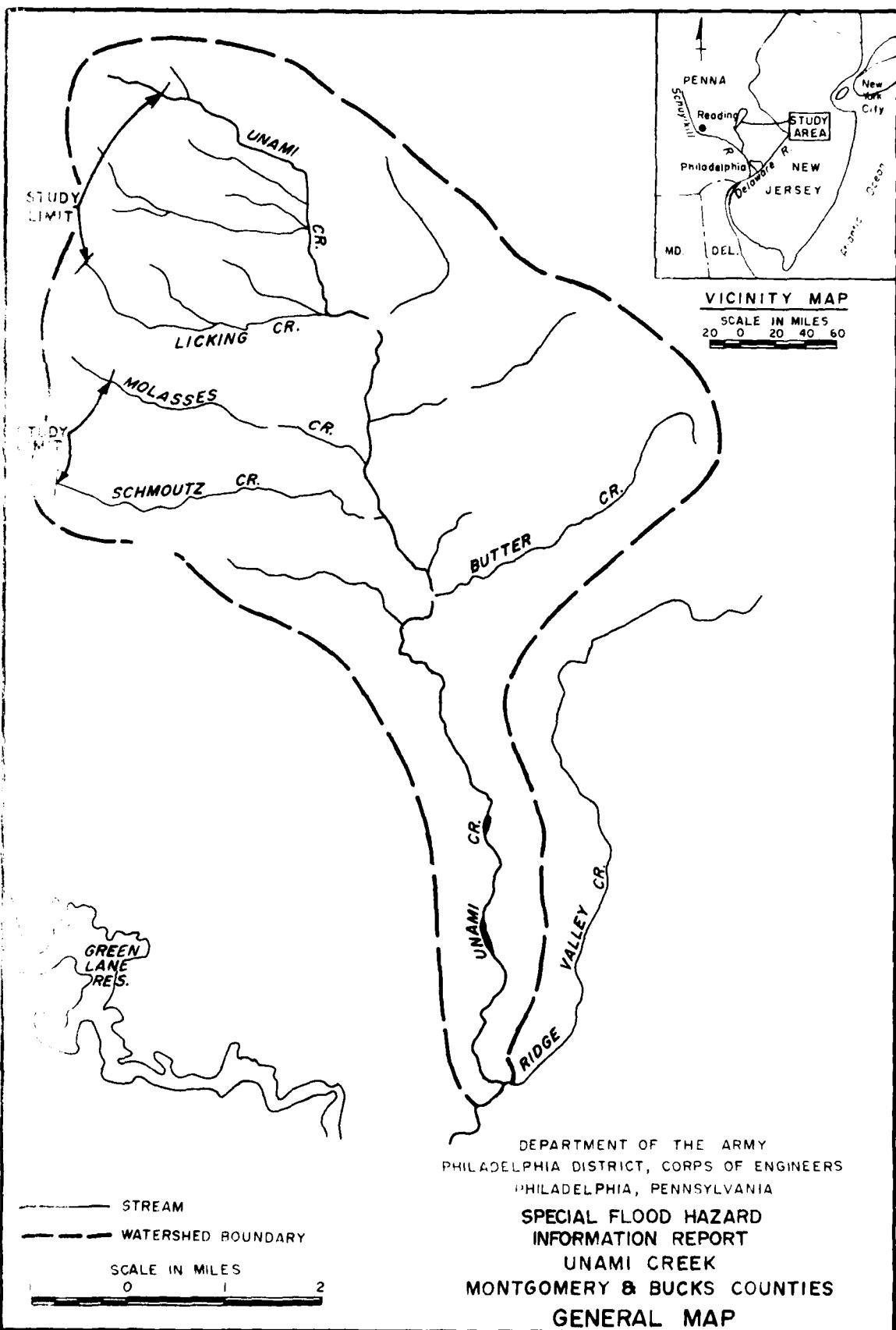
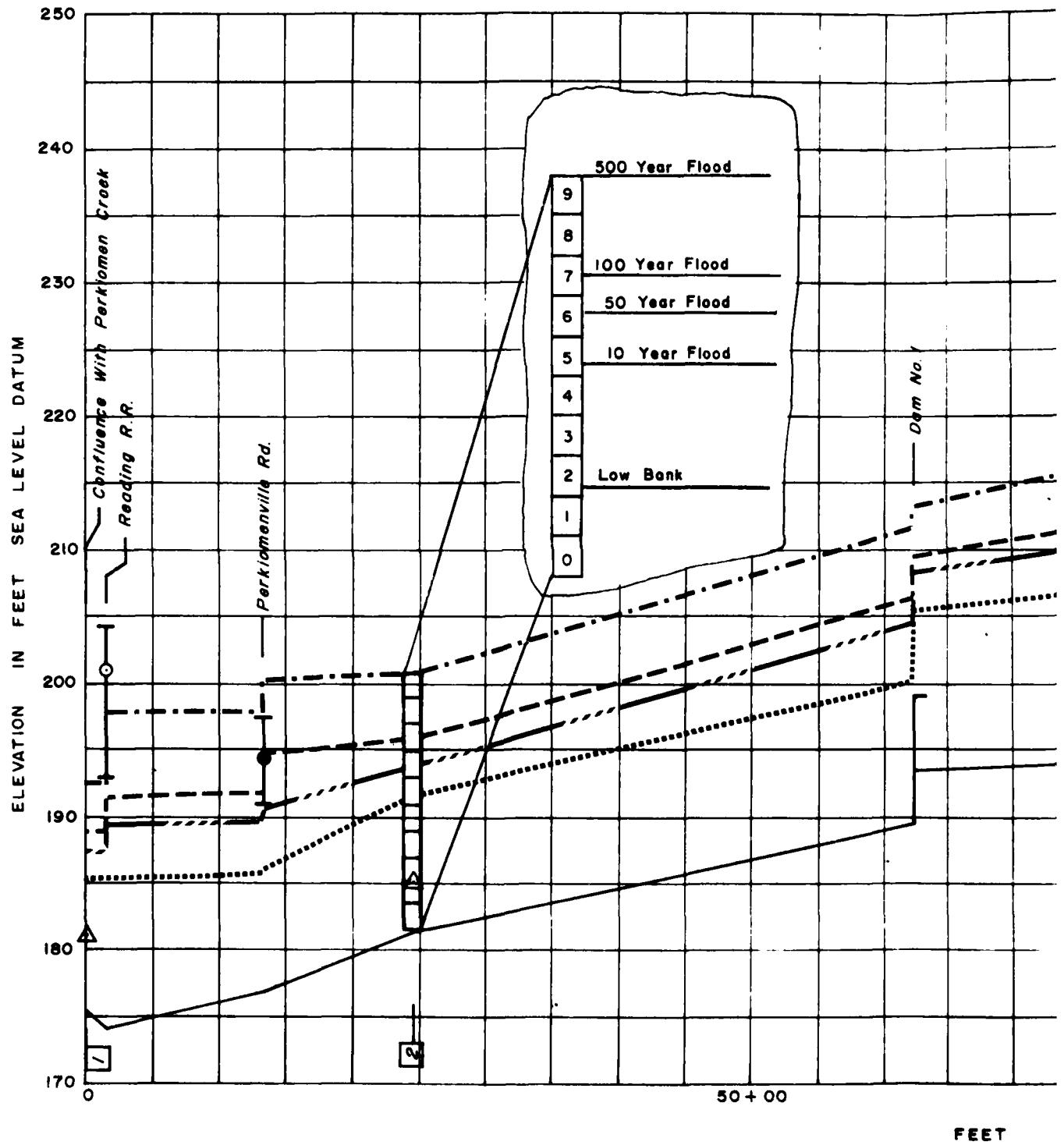
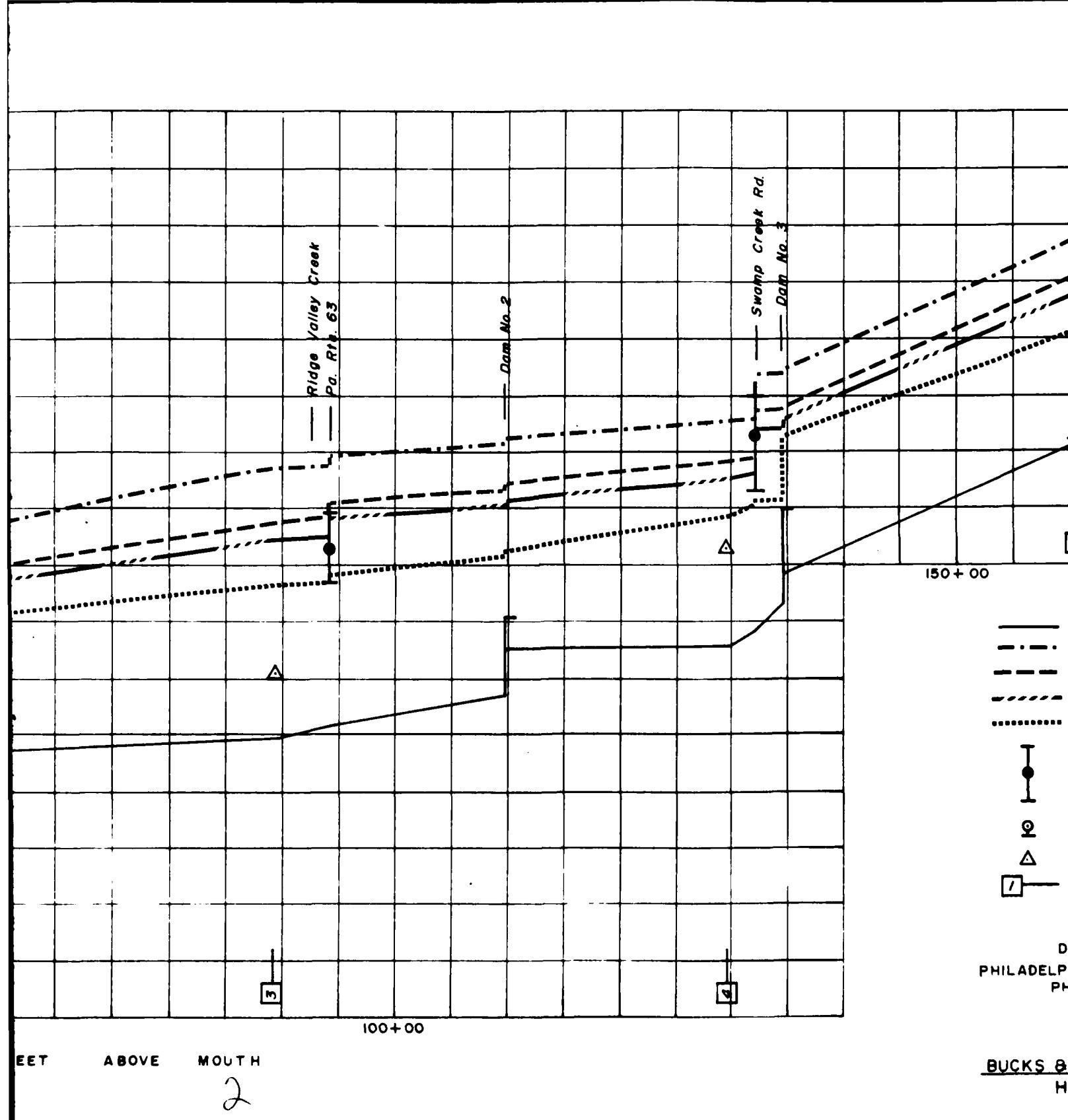
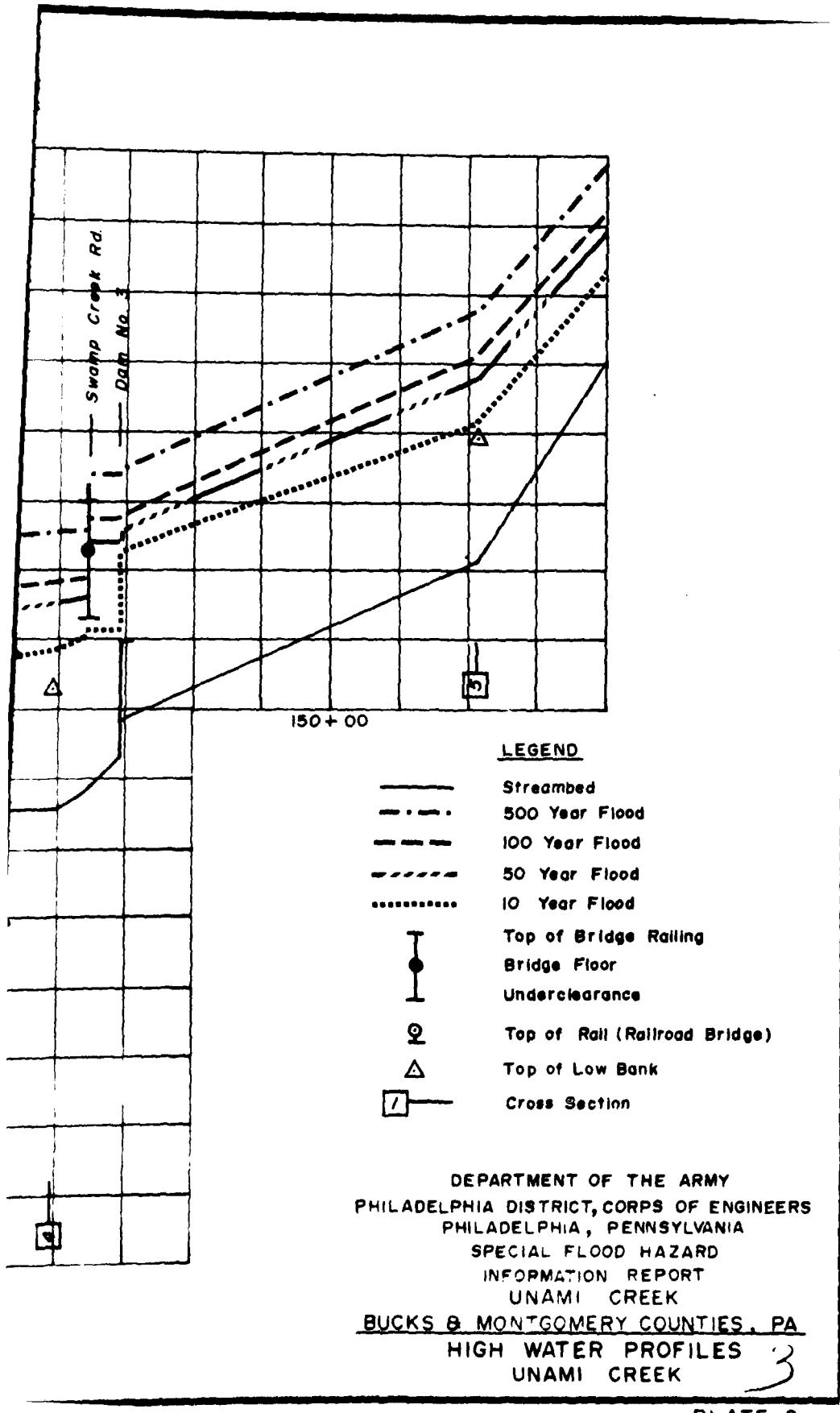
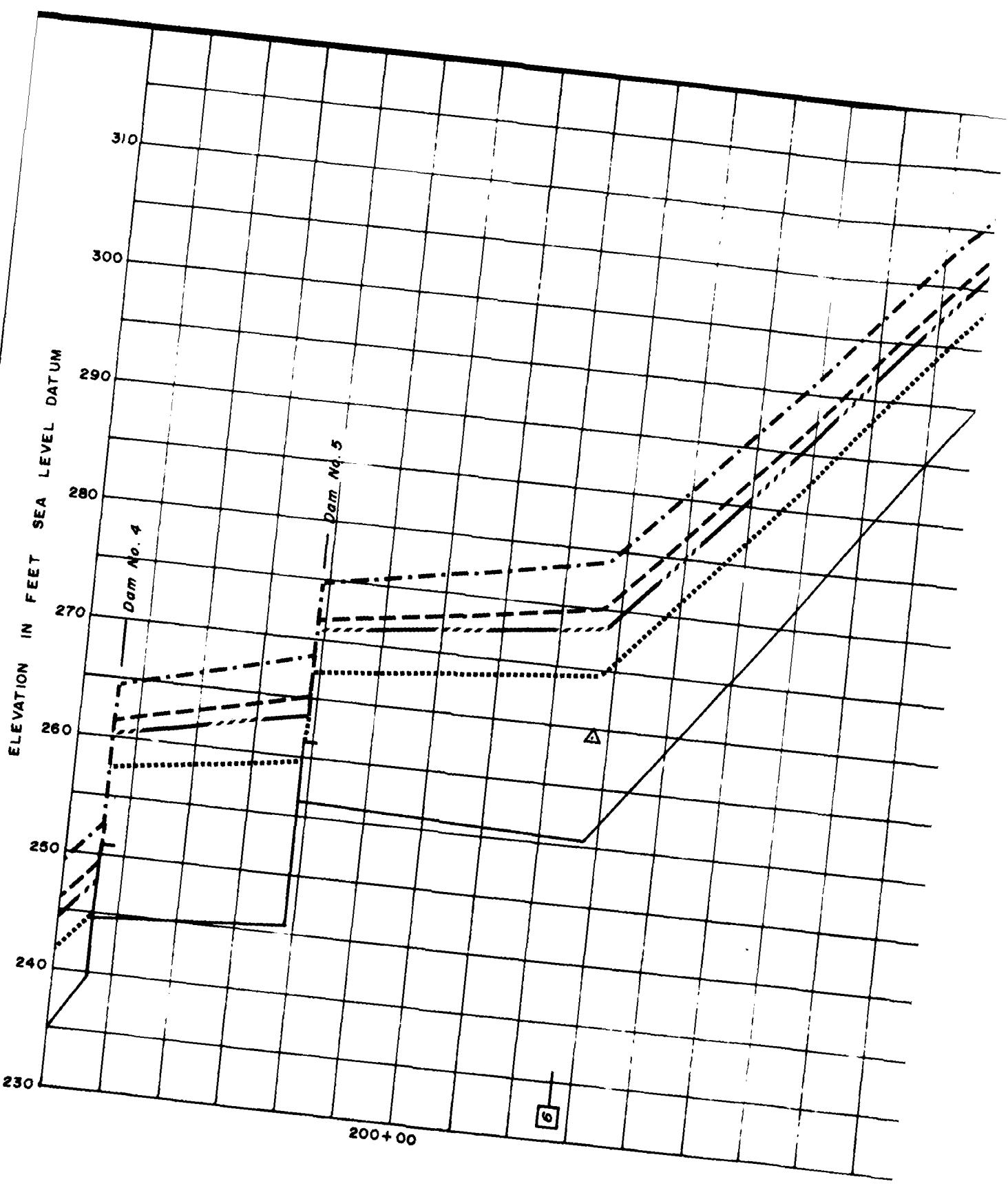


PLATE I

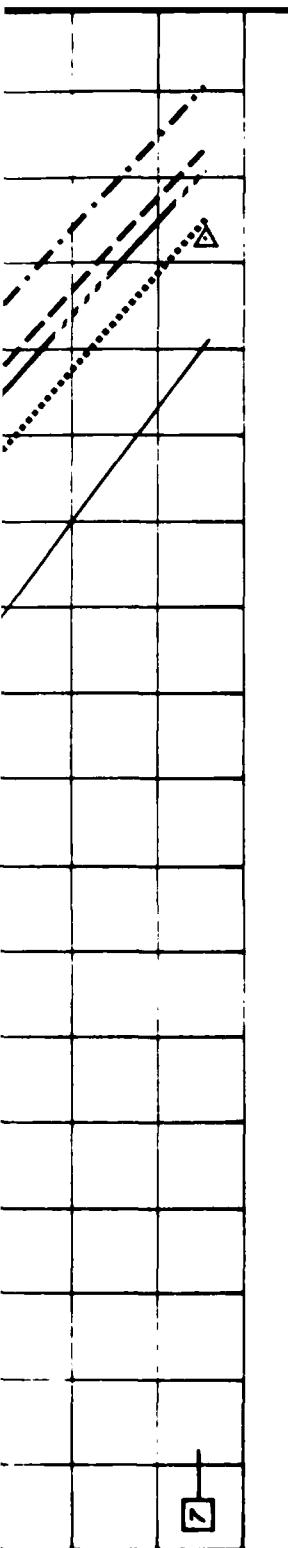






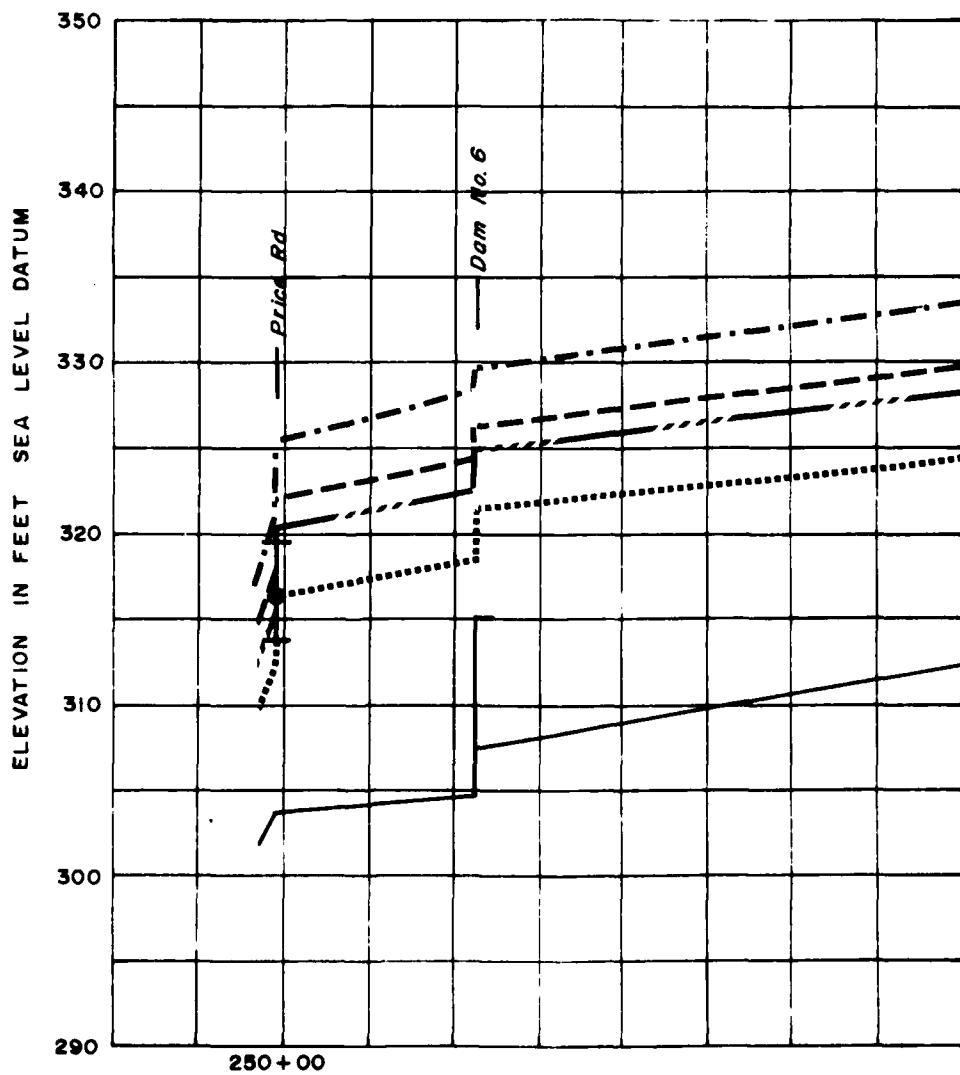


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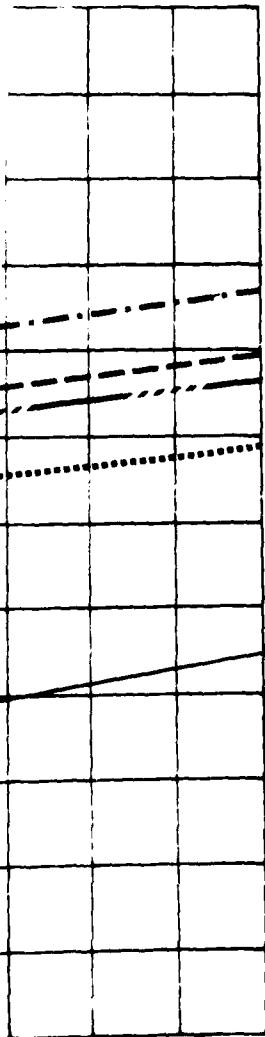


FEET ABOVE MOUTH

2



BUCKS Co.
HI



LEGEND

- Streambed
- - . 500 Year Flood
- - - 100 Year Flood
- - - - 50 Year Flood
- - - - - 10 Year Flood
- | Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- 6 Cross Section

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PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA
SPECIAL FLOOD HAZARD
INFORMATION REPORT
UNAMI CREEK
BUCKS & MONTGOMERY COUNTIES, PA.
HIGH WATER PROFILES
UNAMI CREEK 3

ELEVATION IN FEET SEA LEVEL DATUM

390
380
370
360
350
340
330
320
310

300+00

Swamp Creek Rd.
Dam No. 2

5

10

15

20

25

30

35

40

45

50

55

60

65

70

75

80

85

90

95

100

105

110

115

120

125

130

135

140

145

150

155

160

165

170

175

180

185

190

195

200

205

210

215

220

225

230

235

240

245

250

255

260

265

270

275

280

285

290

295

300

305

310

315

320

325

330

335

340

345

350

355

360

365

370

375

380

385

390

395

400

405

410

415

420

425

430

435

440

ELEVATION IN FEET SEA LEVEL DATUM

440
430
420
410
400
390
380
370
360
350
340
330
320
310

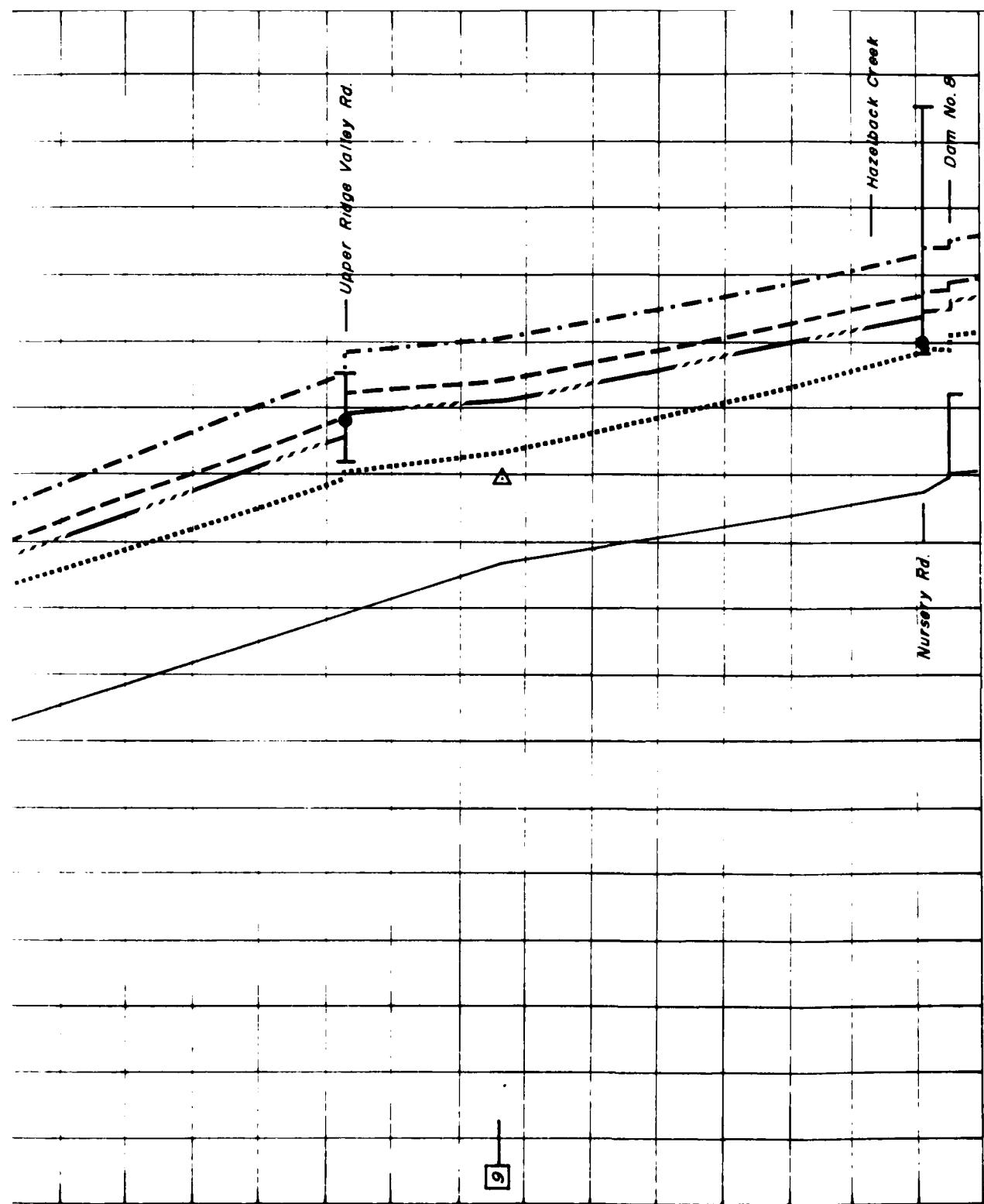
FEET ABOVE

360

400

360

365

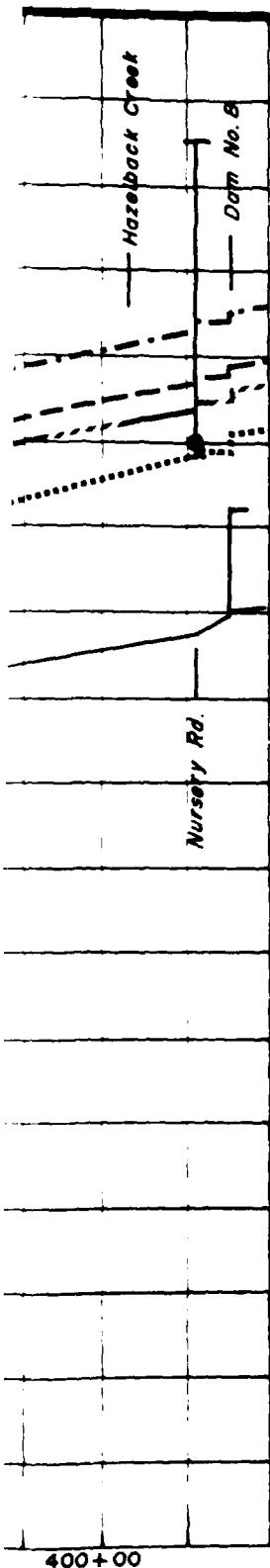


DE
PHILADELPHIA
PH

BUCKS B
H

ABOVE MOUTH

2



LEGEND

- Streambed
- - - 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - - 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- [B] Cross Section

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 INFORMATION REPORT
 UNAMI CREEK
BUCKS & MONTGOMERY COUNTIES, PA
 HIGH WATER PROFILES
 UNAMI CREEK

3

ELEVATION IN FEET SEA LEVEL DATUM

480
470
460
450
440
430
420
410
400

450 + 00

FEET

Buster Creek - Pa. Tpk. N.E. Extension

Trumbauerville Rd.

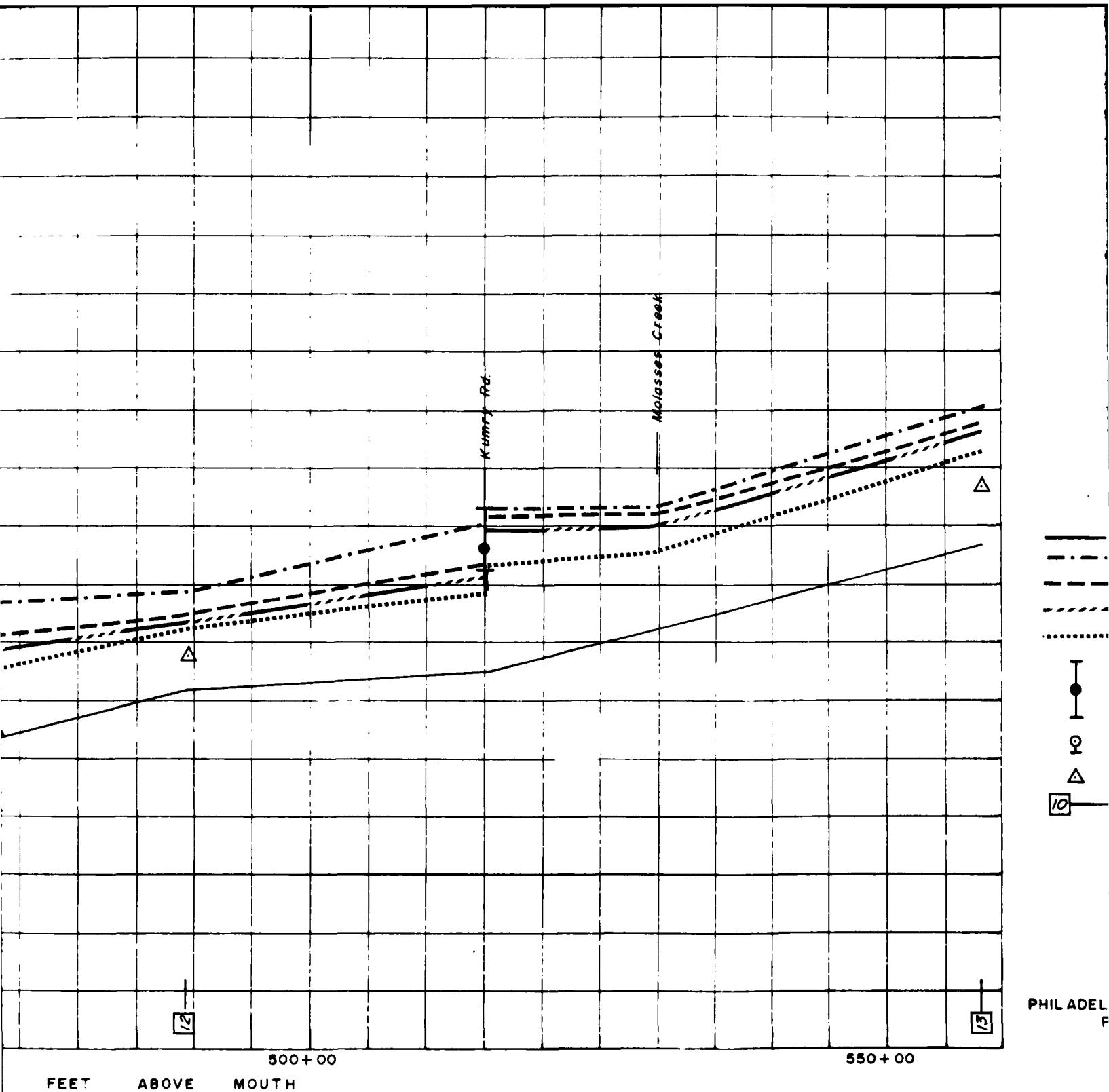
Schmoutz Creek

△

△

10

11



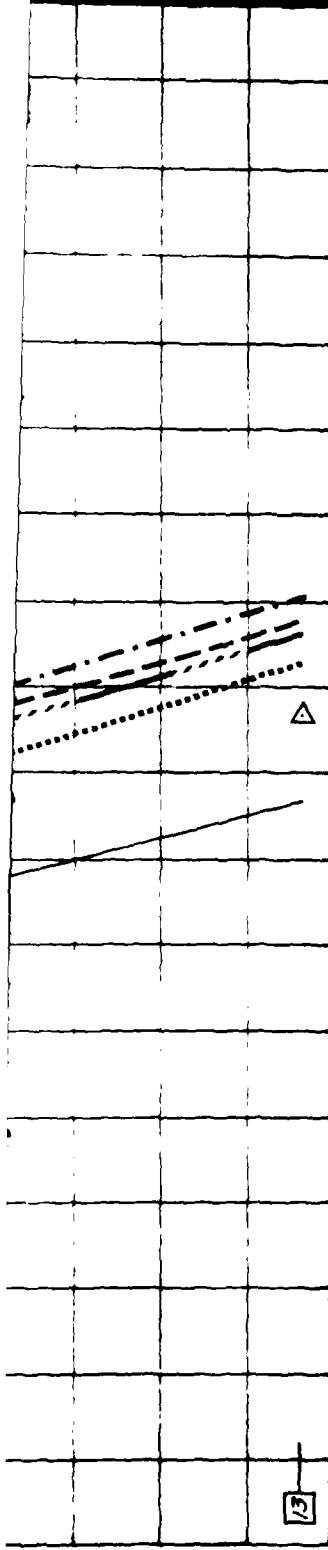
FEET ABOVE MOUTH

500 + 00

550 + 00

2

BUCKS 1



LEGEND

- Streambed
- - - . 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - - 10 Year Flood
- |—— Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- △—— Top of Low Bank
- [O]—— Cross Section

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PHILADELPHIA, PENNSYLVANIA
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INFORMATION REPORT
UNAMI CREEK
BUCKS & MONTGOMERY COUNTIES PA
HIGH WATER PROFILES
UNAMI CREEK

ELEVATION IN FEET SEA LEVEL DATUM

520
510
500
490
480
470
460
450
440

440

600 + 00

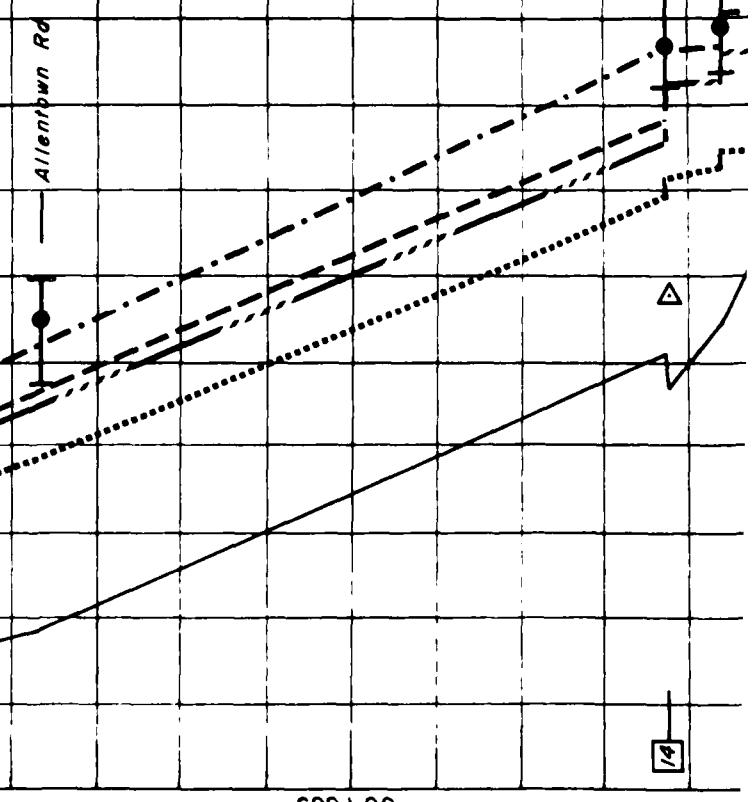
FEE

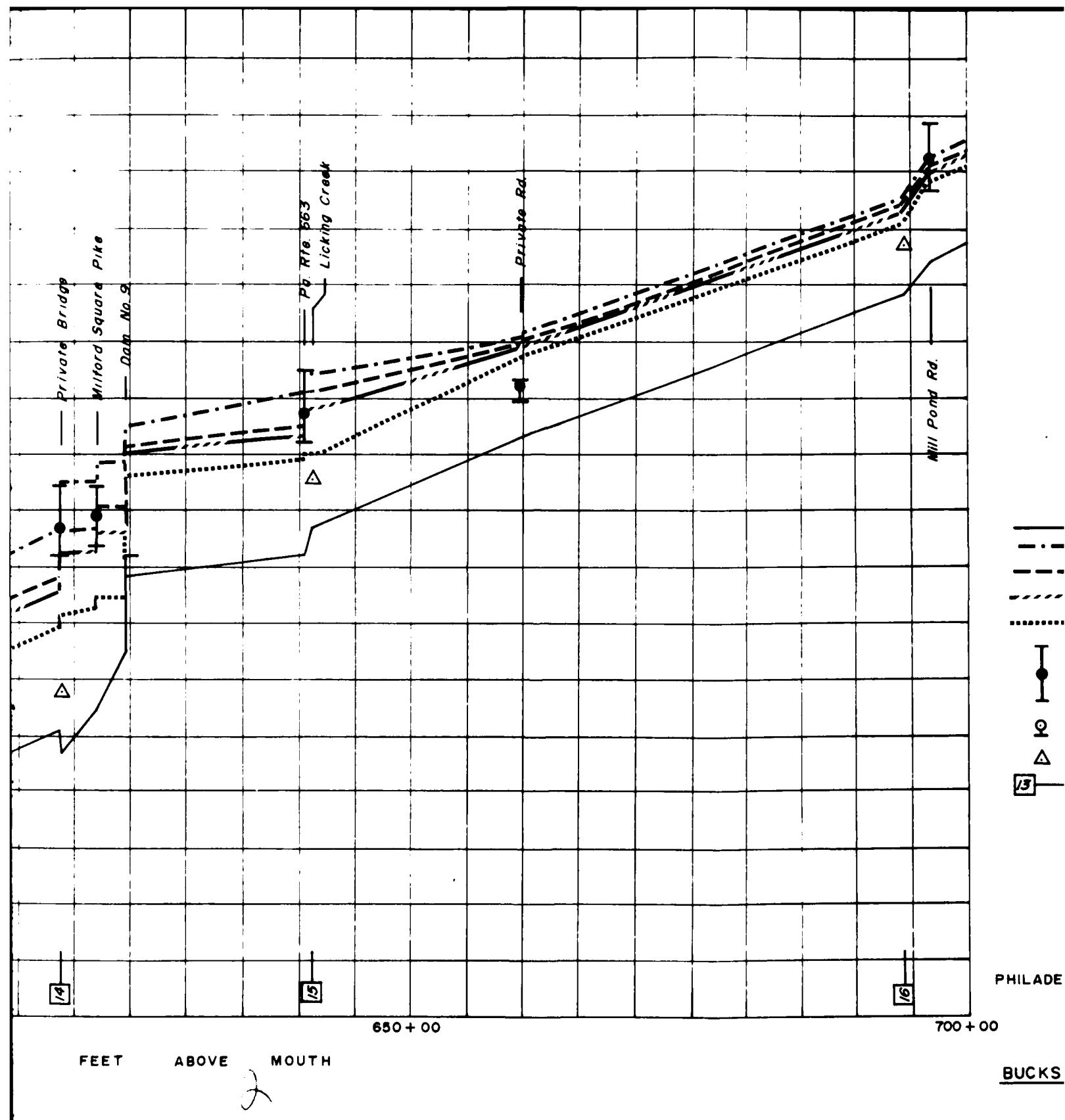
Allentown Rd

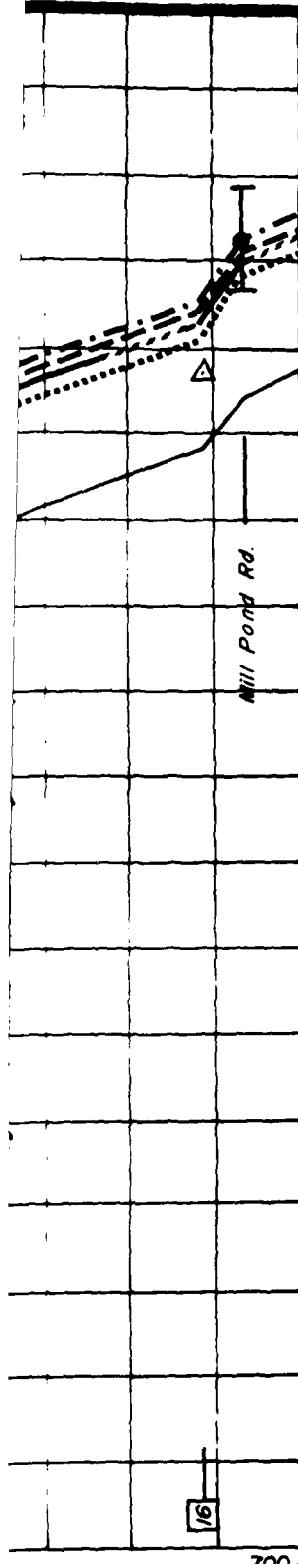
13

14

Private Bridge
Millford Square Pike





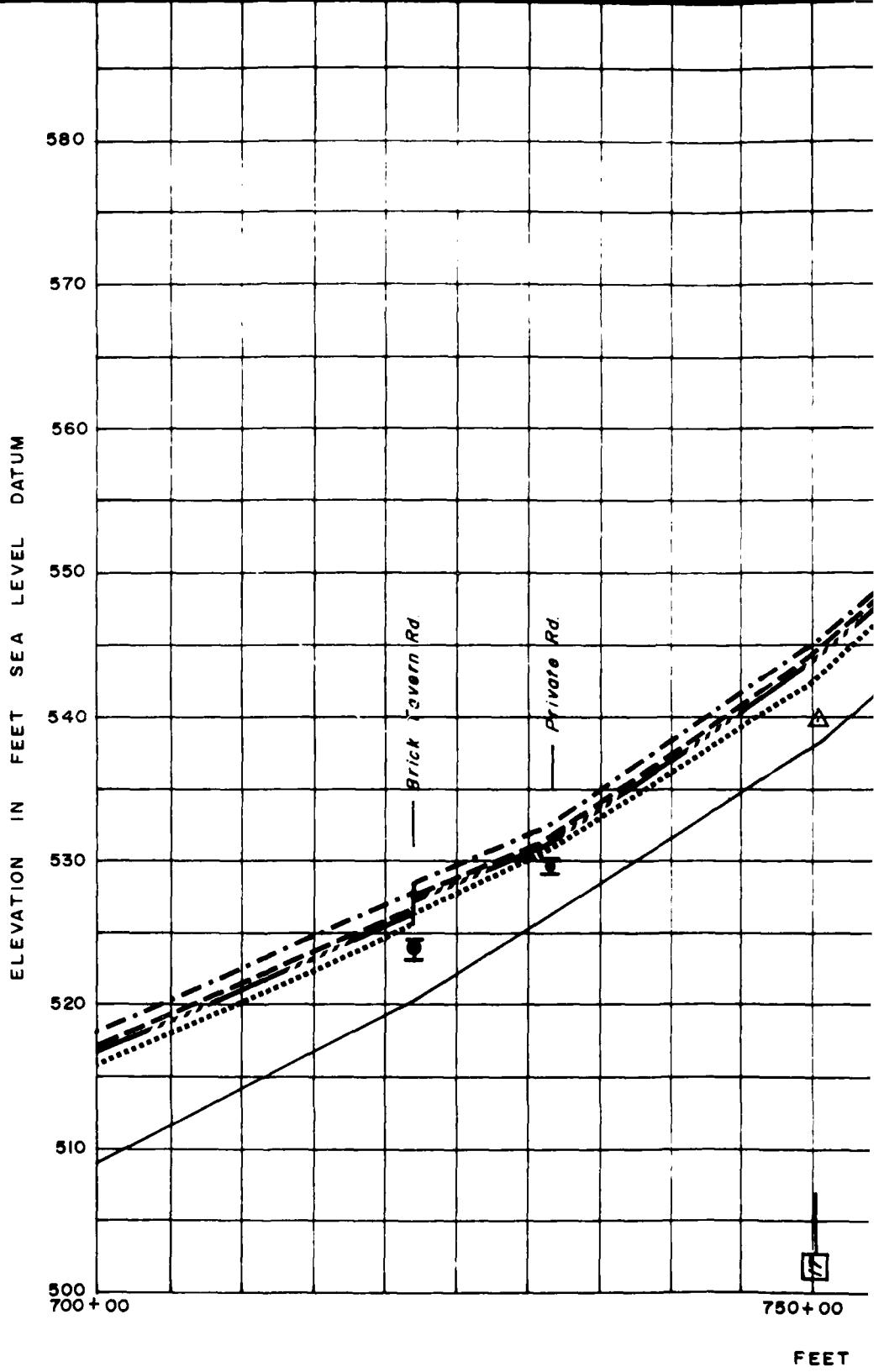


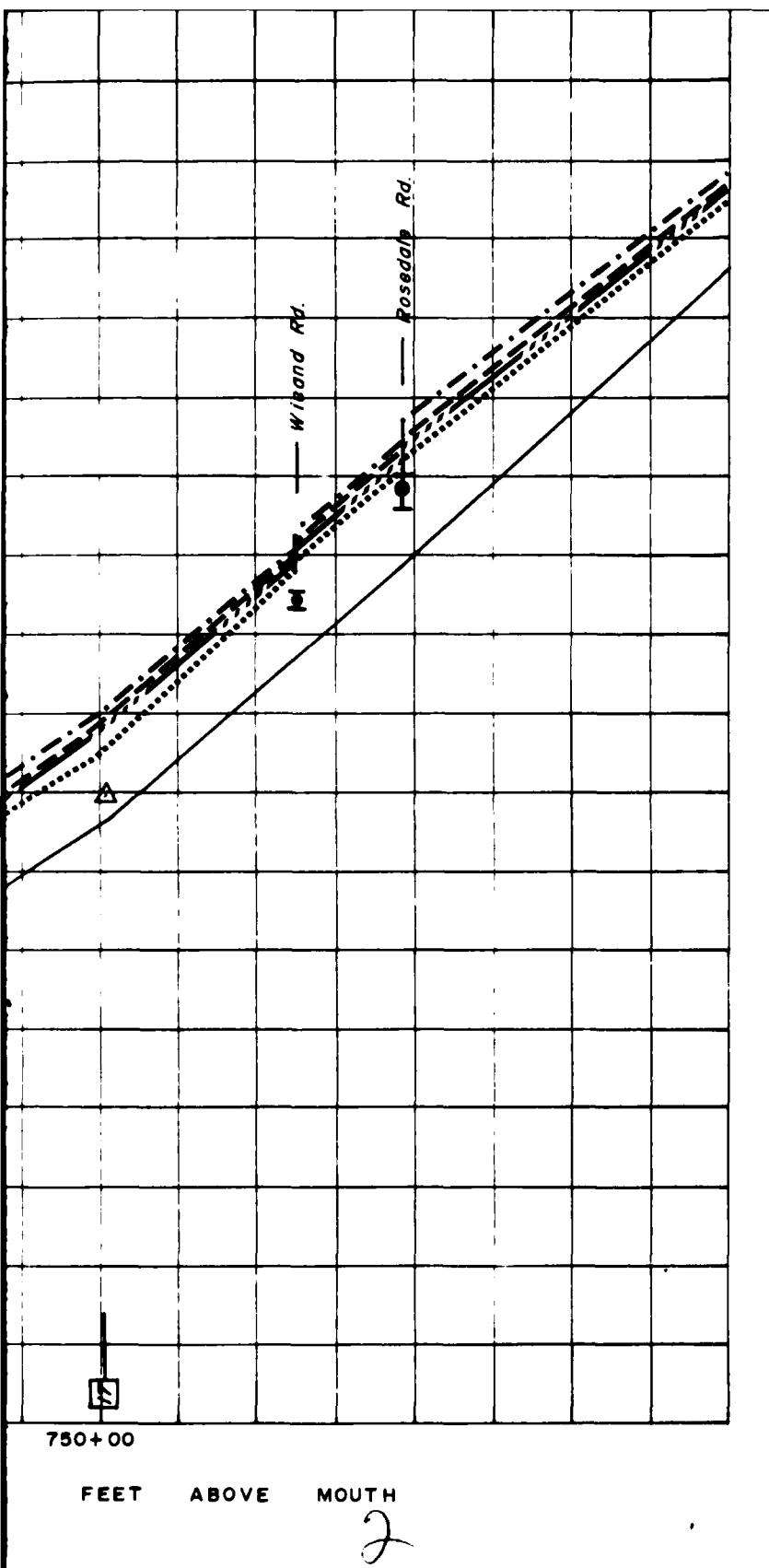
LEGEND

- Streambed
- - - - - 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- [3] — Cross Section

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HIGH WATER PROFILES
 UNAMI CREEK

PLATE 6



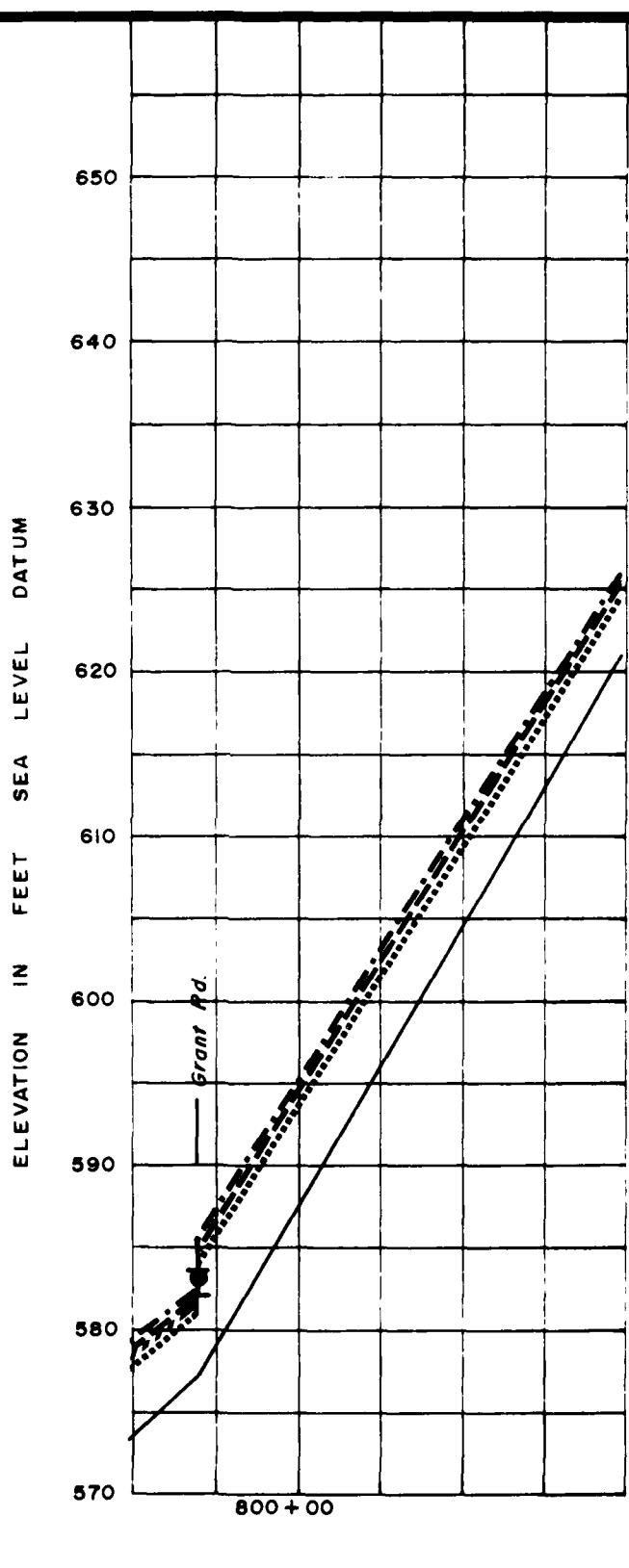


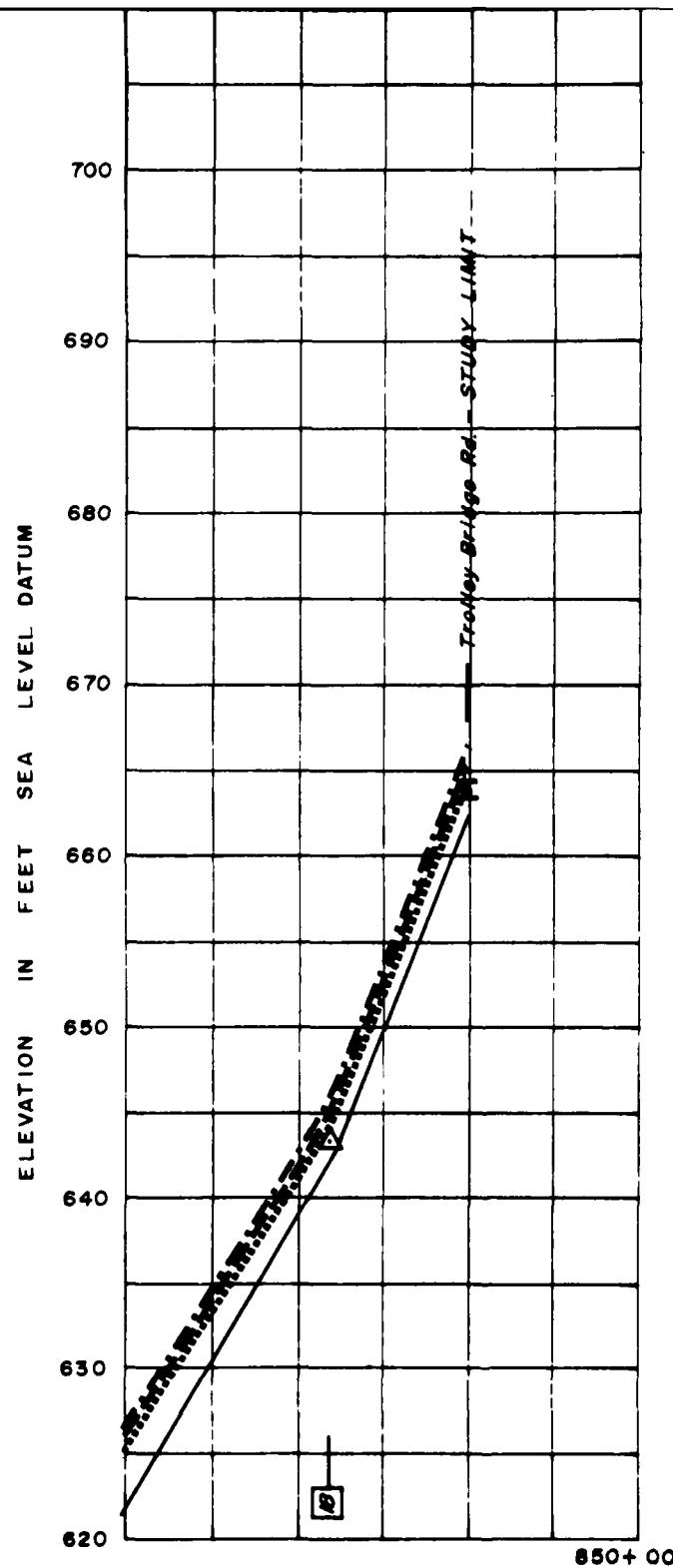
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LEGEND

- Streambed
- - - 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - - 10 Year Flood
- | Top of Bridge Railing
- Bridge Floor
- Underclearance
- Ω Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- / \ Cross Section

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UNAMI CREEK 3





ABOVE MOUTH

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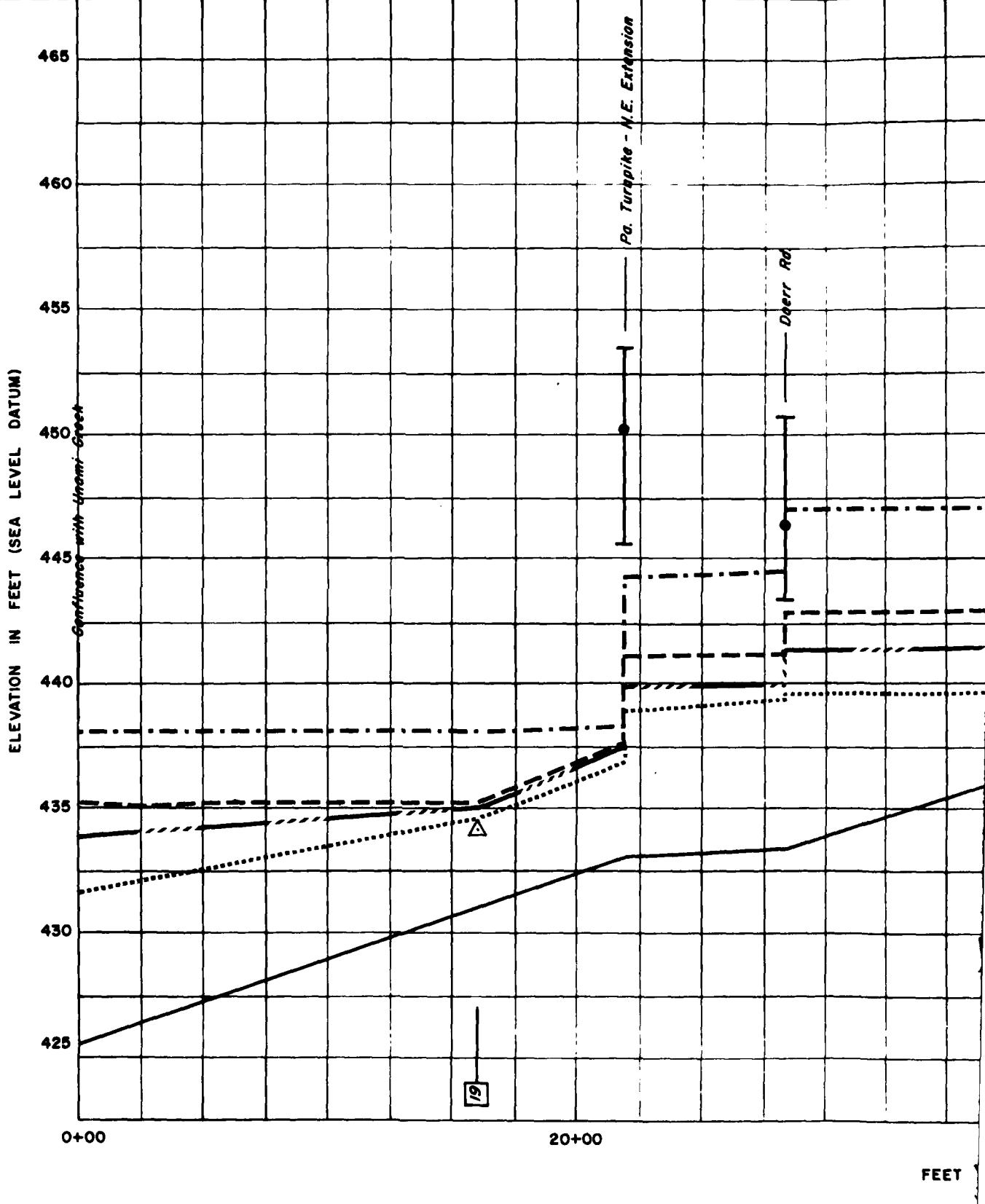
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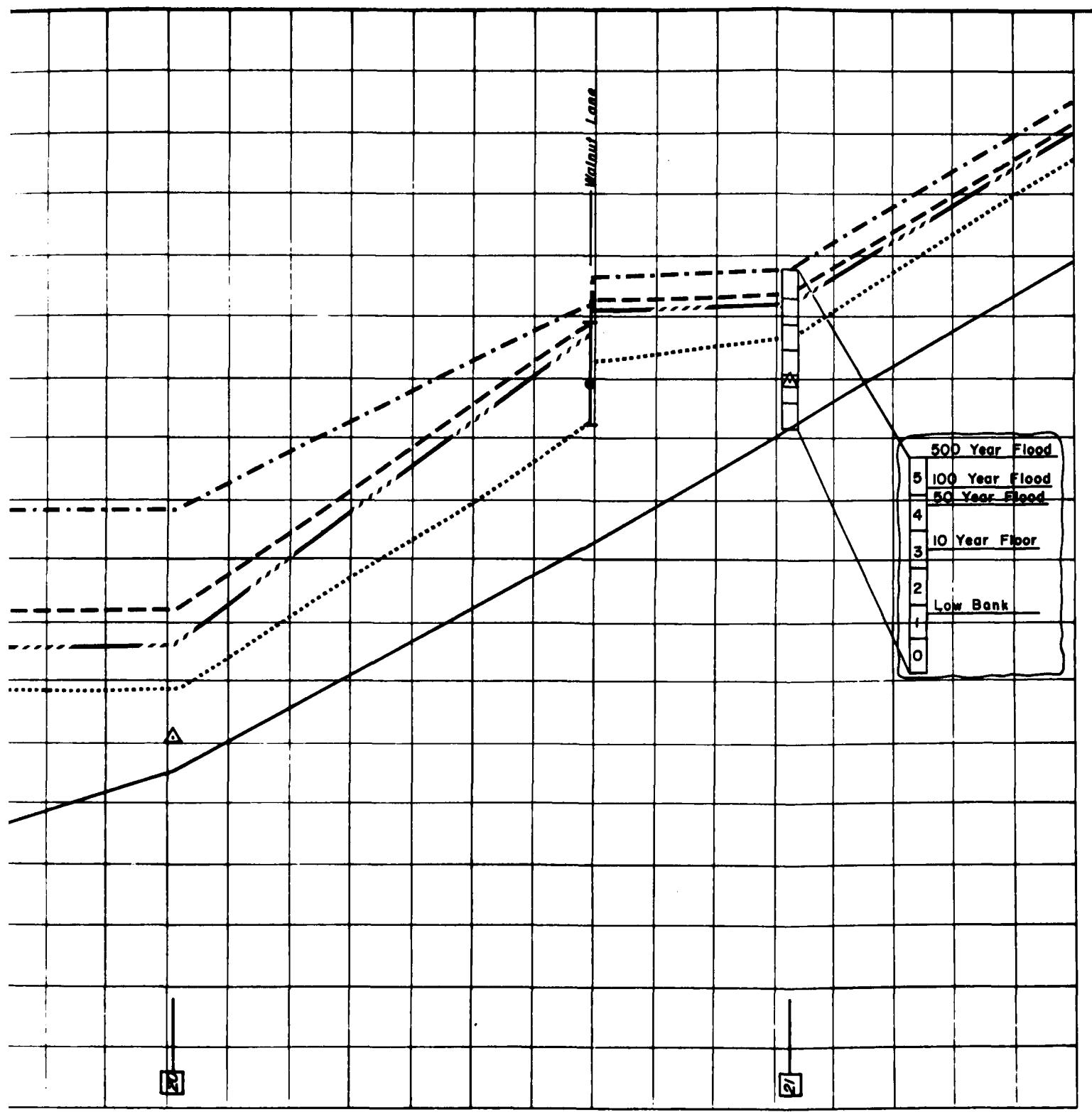
BUCKS

LEGEND

- Streambed
- - - - - 500 Year Flood
- - - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - 10 Year Flood
- | • Top of Bridge Railing
- | Bridge Floor
- | Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- [] Cross Section

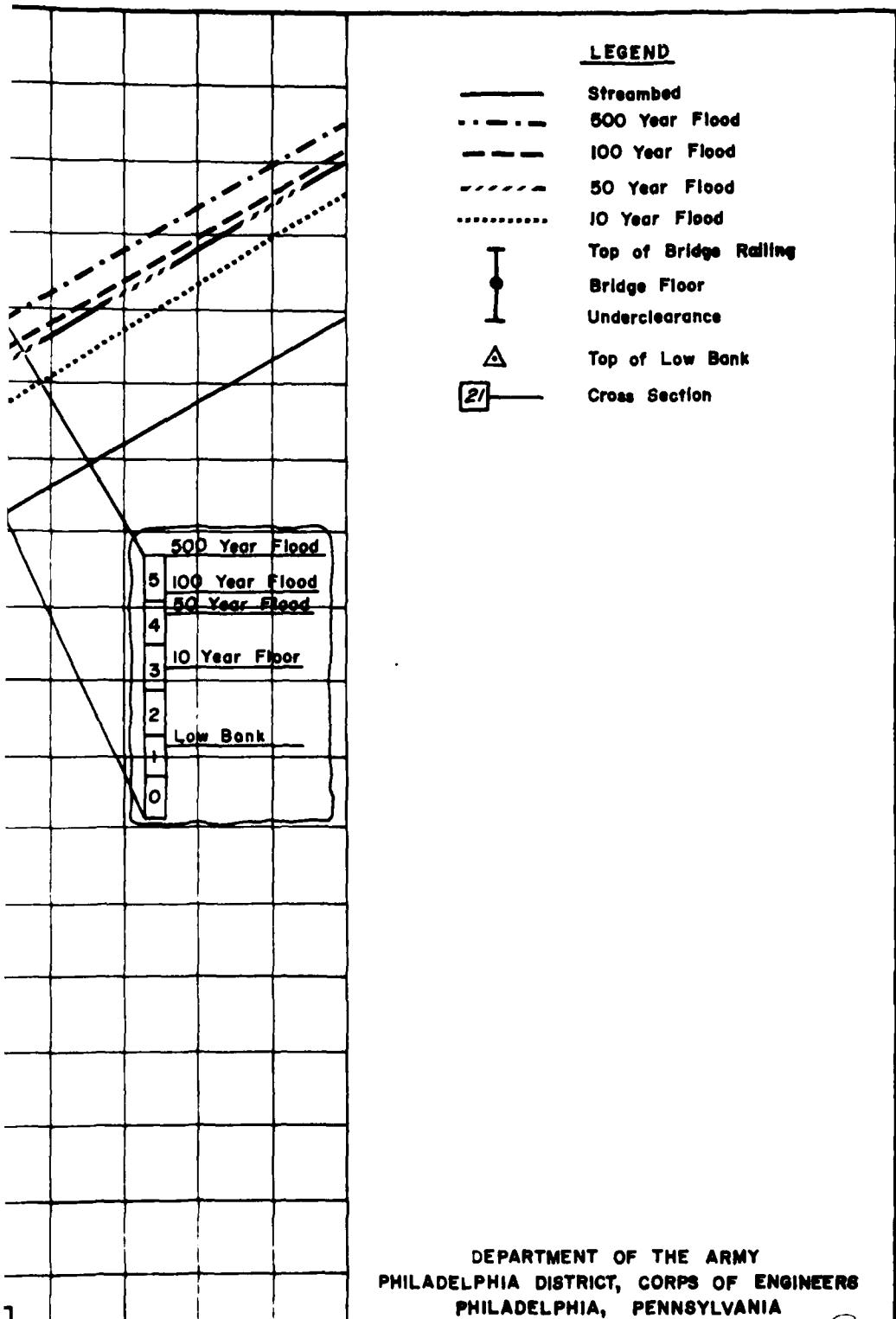
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HIGH WATER PROFILES
UNAMI CREEK





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 BUCKS & MONTGOMERY COUNTIES, PA.
 HIGH WATER PROFILES
 SCHMOUTZ CREEK

ELEVATION IN FEET (SEA LEVEL DATUM)

495
490
485
480
475
470
465
460
455

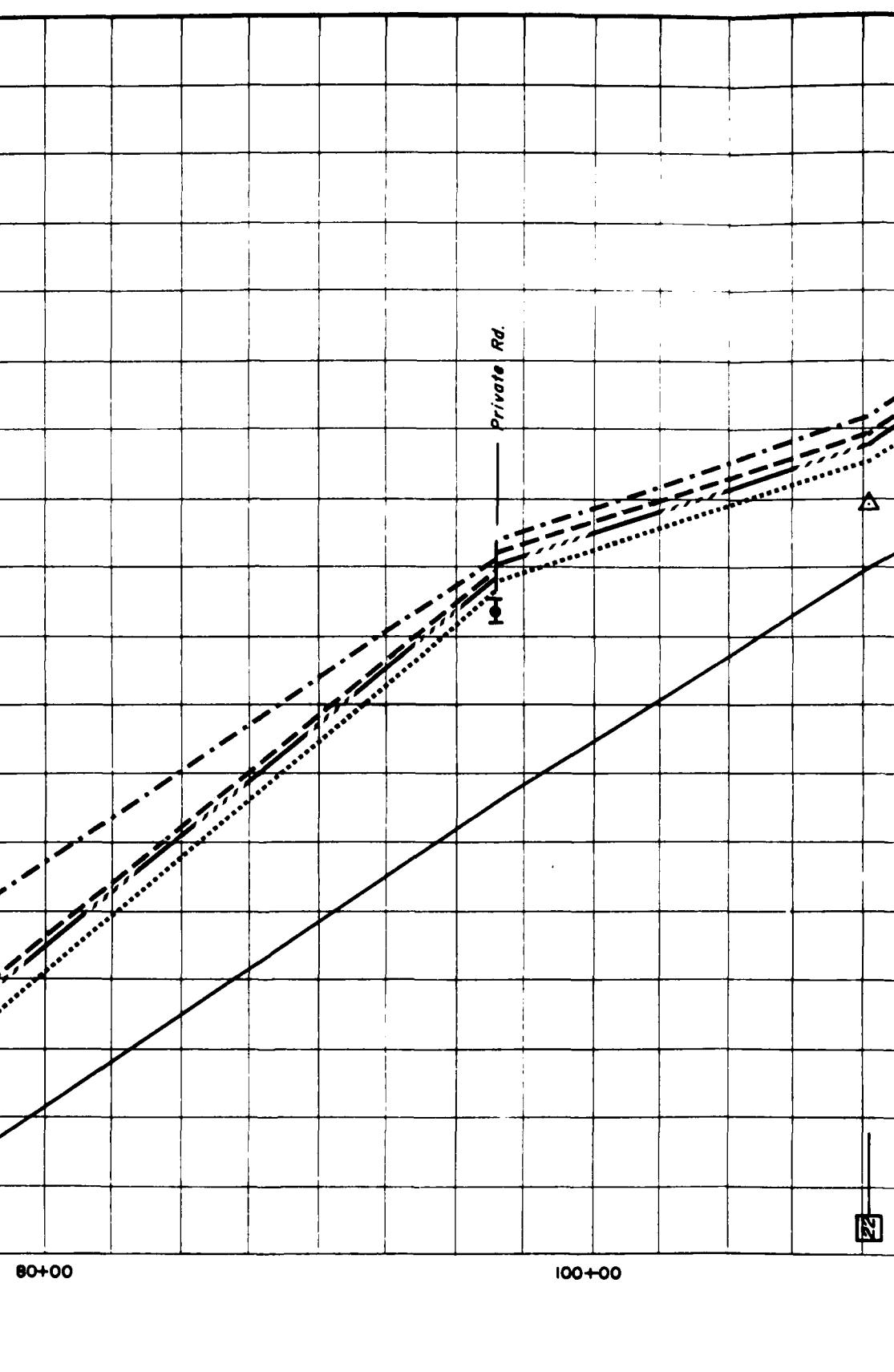
80+00

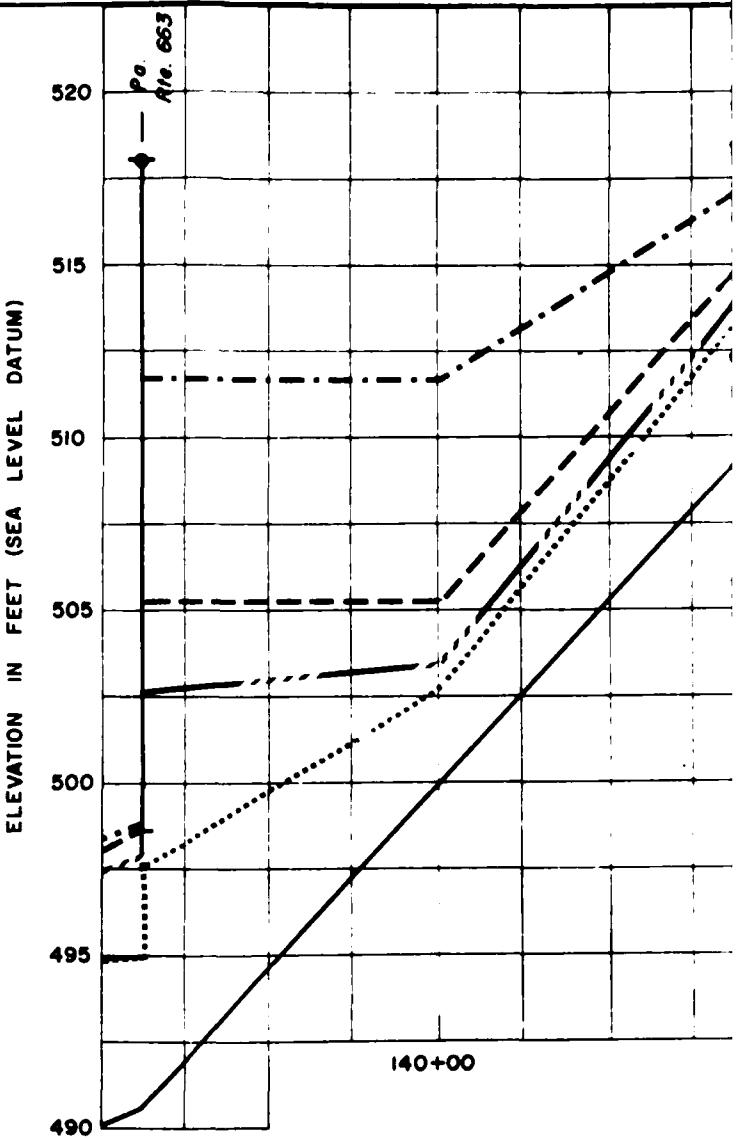
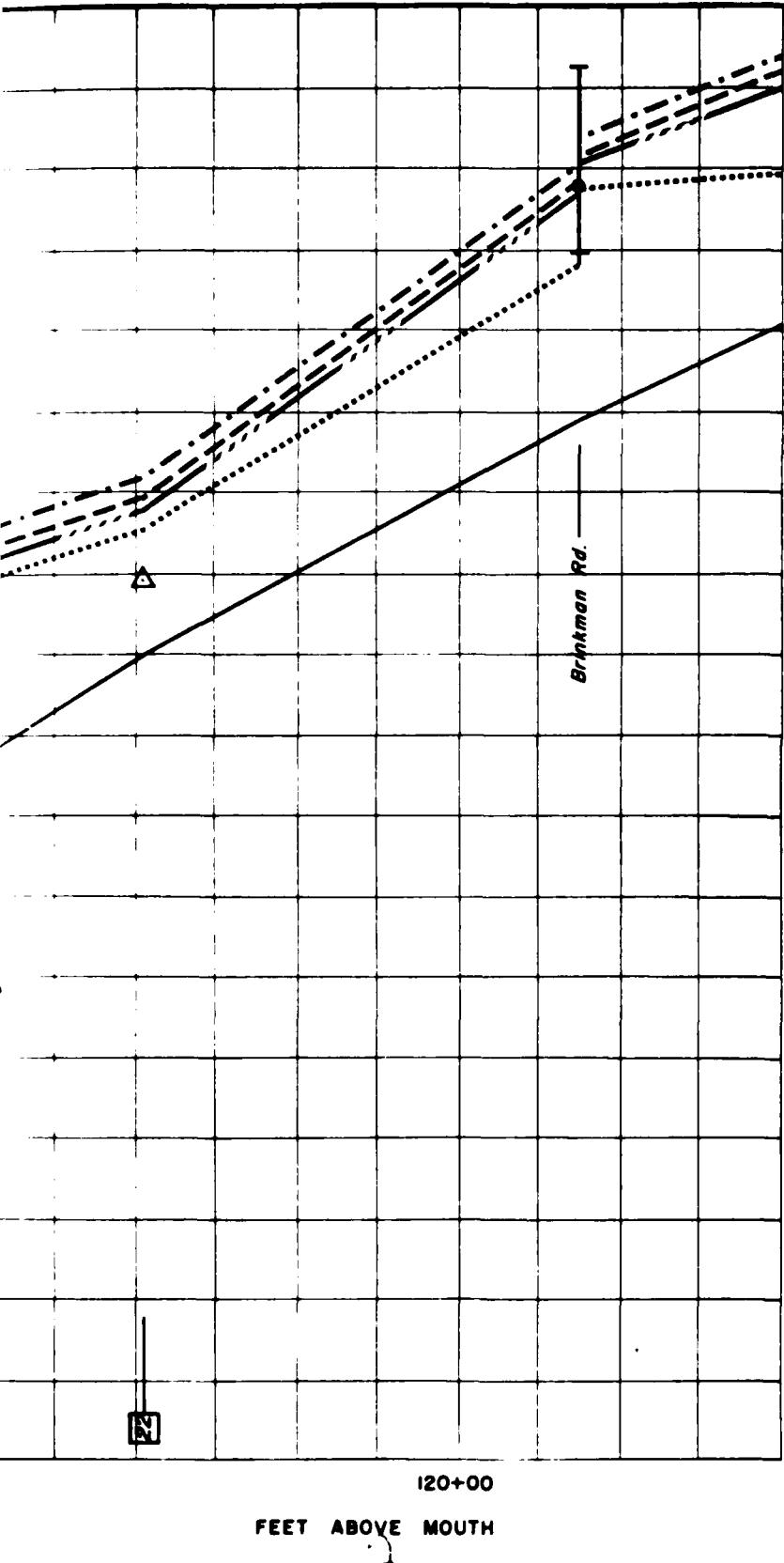
100+00

Kumey Rd.

Private Rd.

22



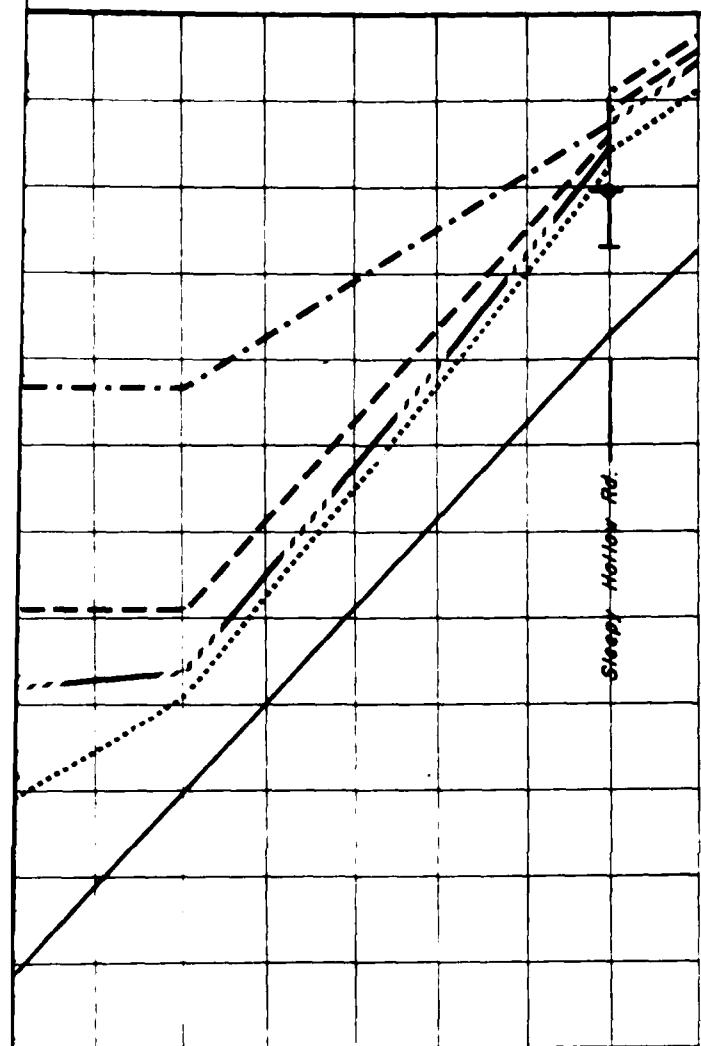


LEGEND

- Streambed
- 500 Year Flood
- 100 Year Flood
- - - 50 Year Flood
- 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- △ Top of Low Bank
- Cross Section

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BUCKS



140+00

LEGEND

- reambed
- 00 Year Flood
- 10 Year Flood
- 3 Year Flood
- 1 Year Flood
- p of Bridge Railing
- ridge Floor
- nderclearance
- p of Low Bank
- oss Section

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3

PLATE 1C

ELEVATION IN FEET (SEA LEVEL DATUM)

550
545
540
535
530
525
520
515
510

160+00

180+00

FEET

Angstadt Rd.

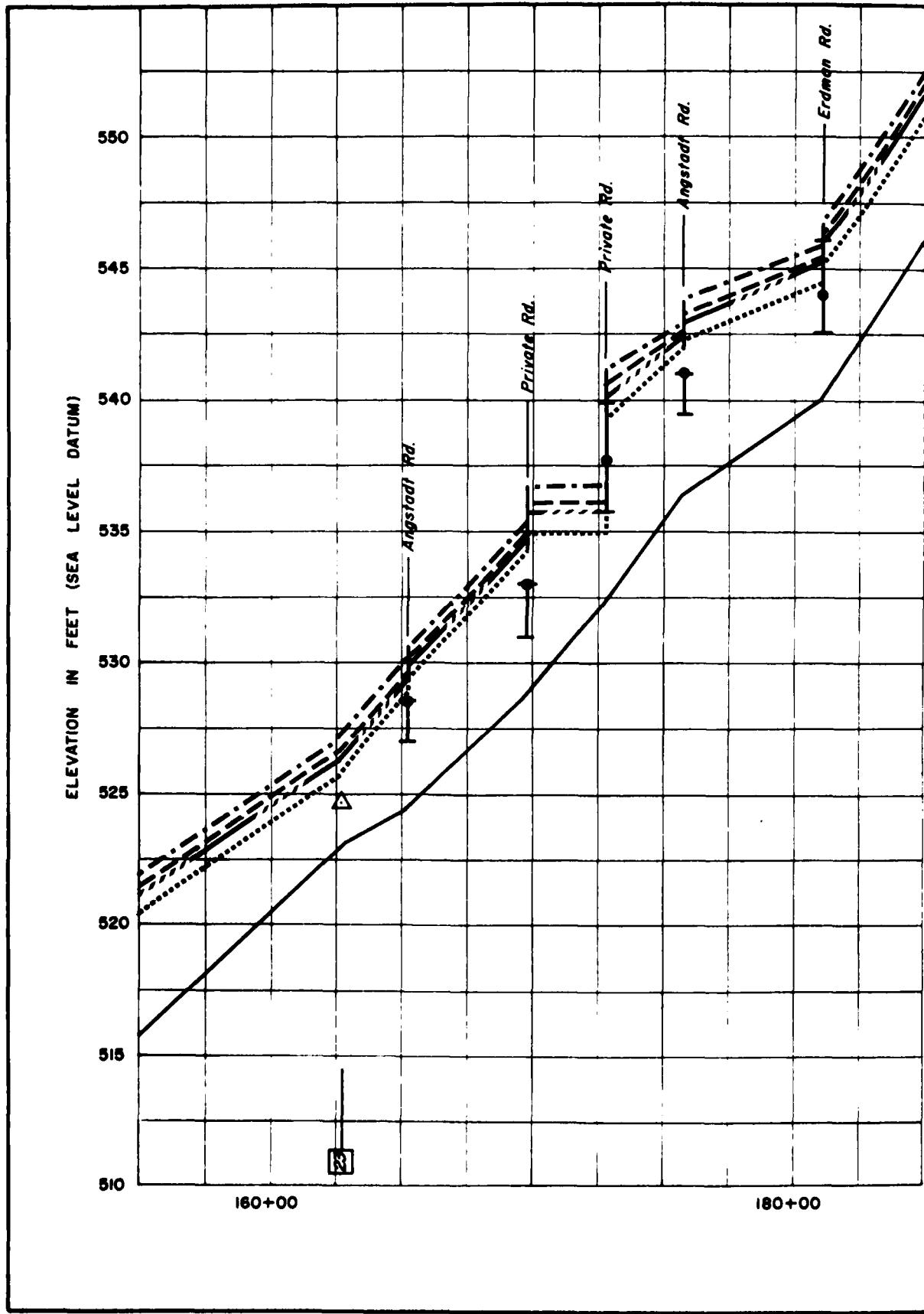
Private Rd.

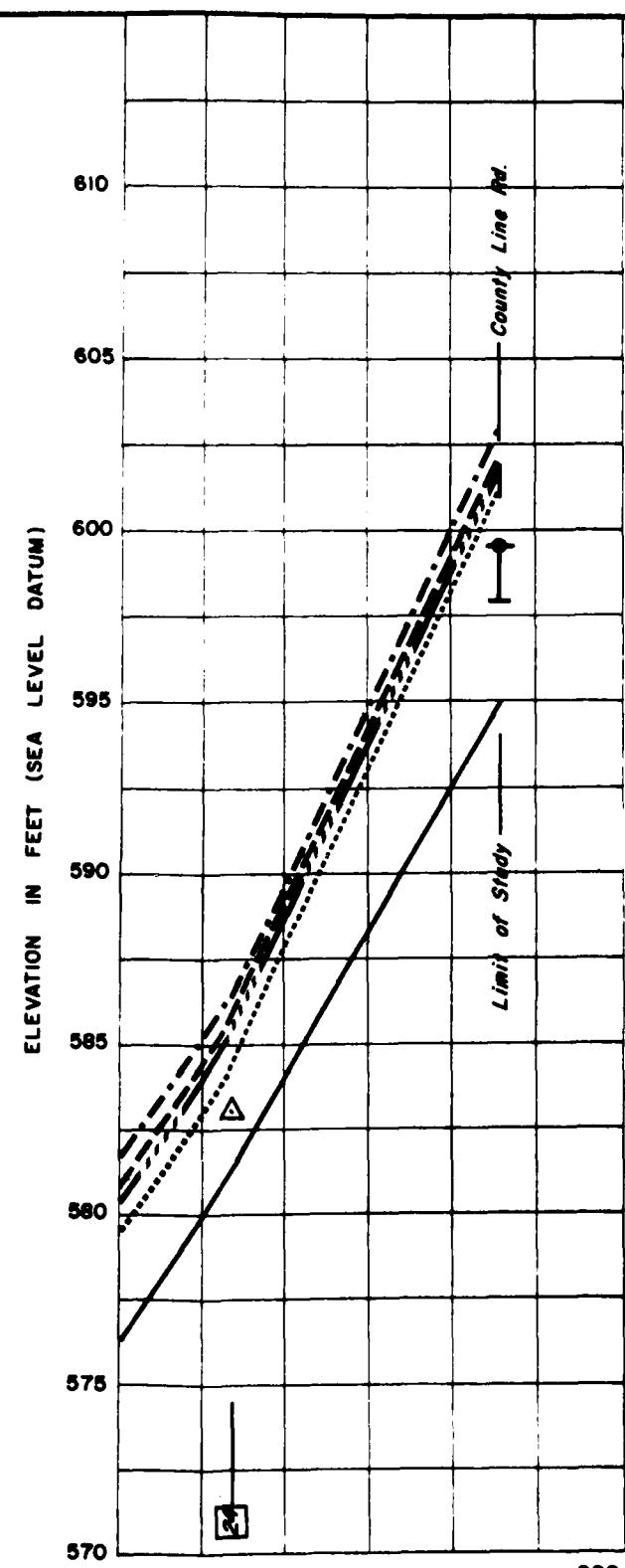
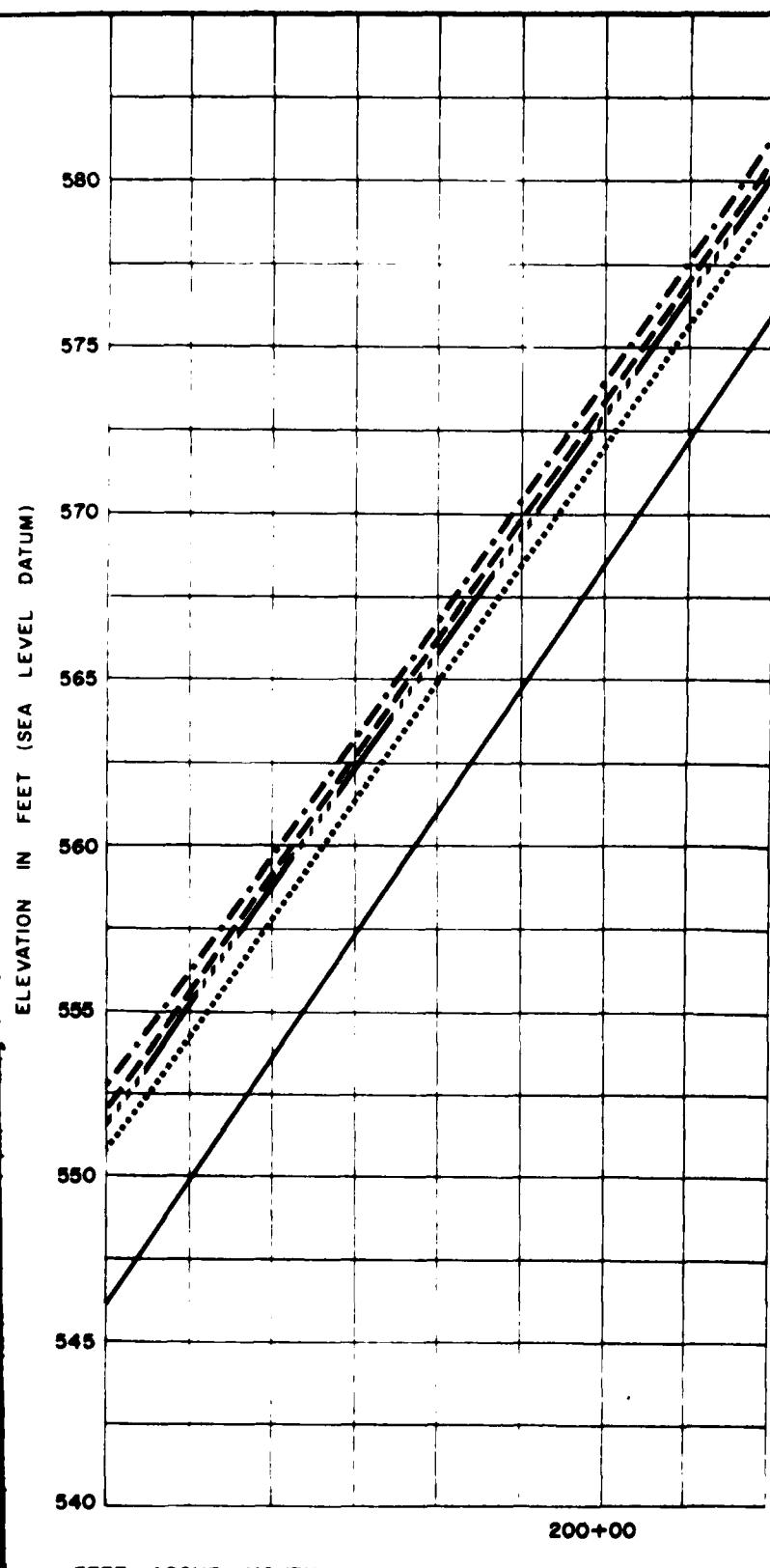
Angstadt Rd.

Erdman Rd.

ELEVATION IN FEET (SEA LEVEL DATUM)

580
575
570
565
560
555
550
545
540





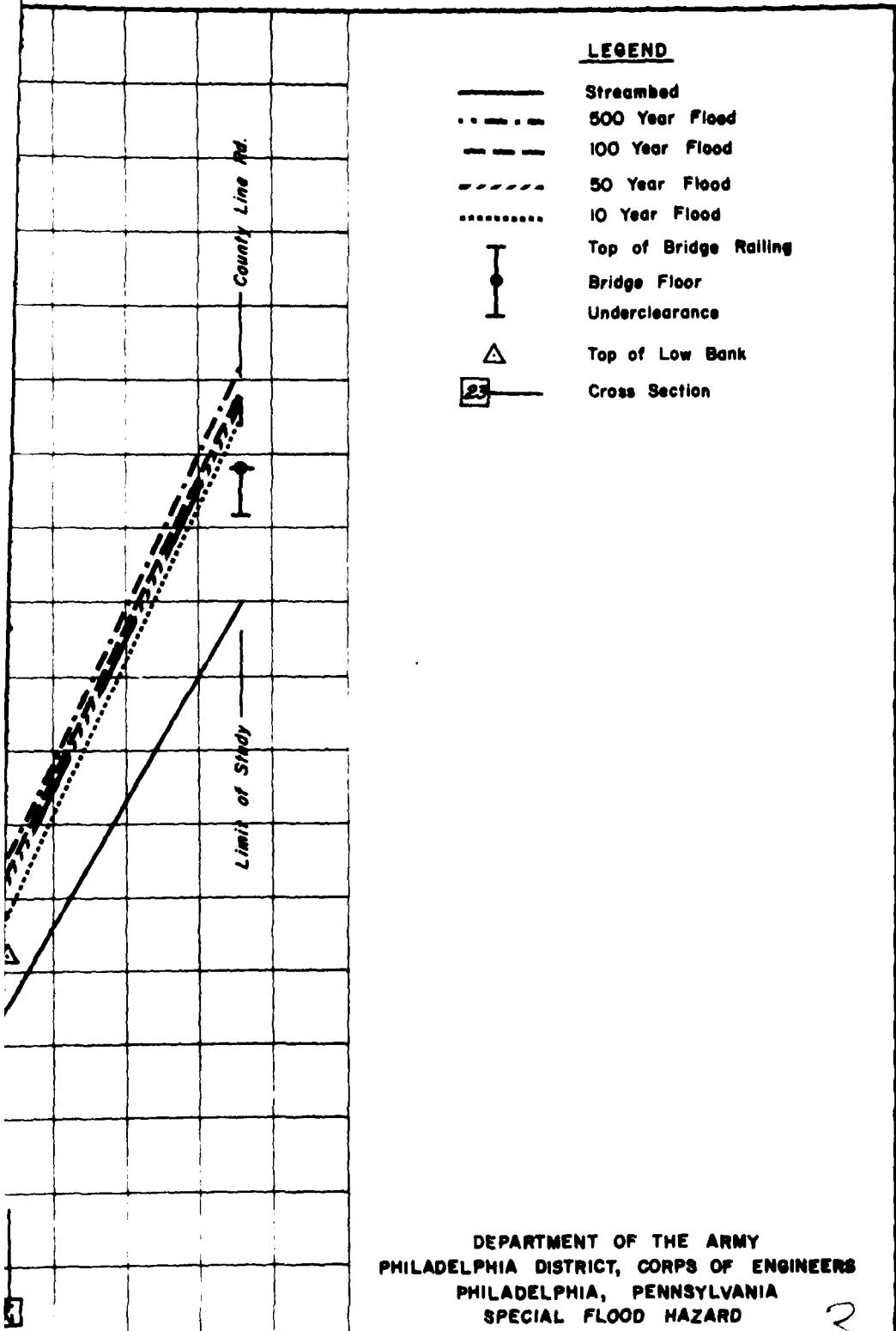
FEET ABOVE MOUTH

2

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220+00

BUCKS



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 SCHMOUTZ CREEK

220+00

PLATE II

ELEVATION IN FEET SEA LEVEL DATUM

475

470

465

460

455

450

445

440

435

0 +00

25

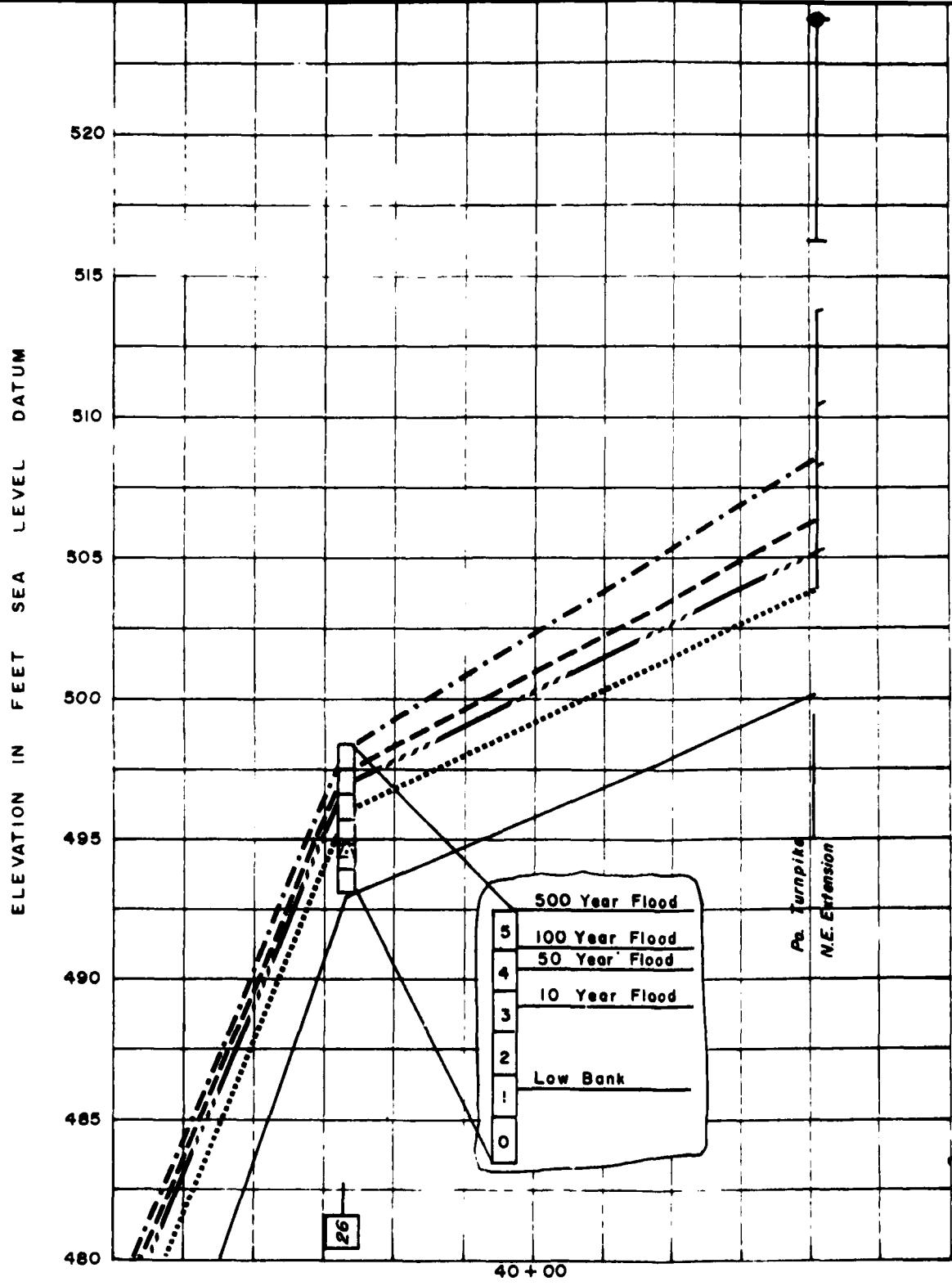
20+00

FEET ABOVE

Confluence with Undami Creek

Rosenburger Rd

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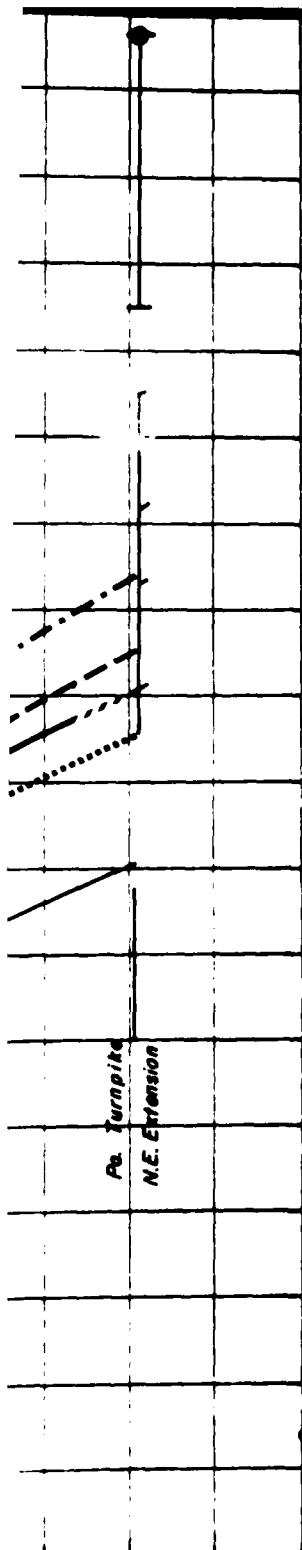


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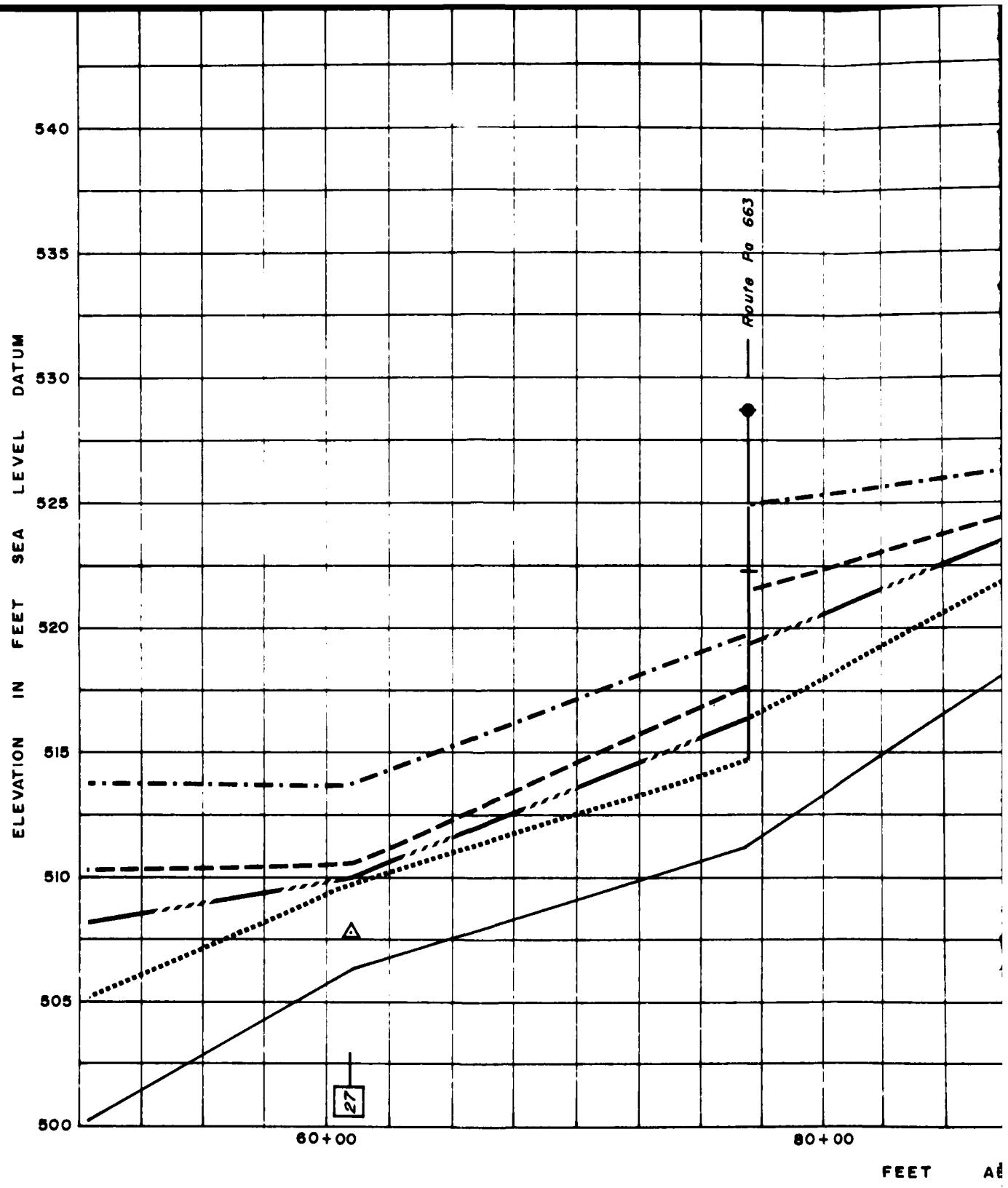


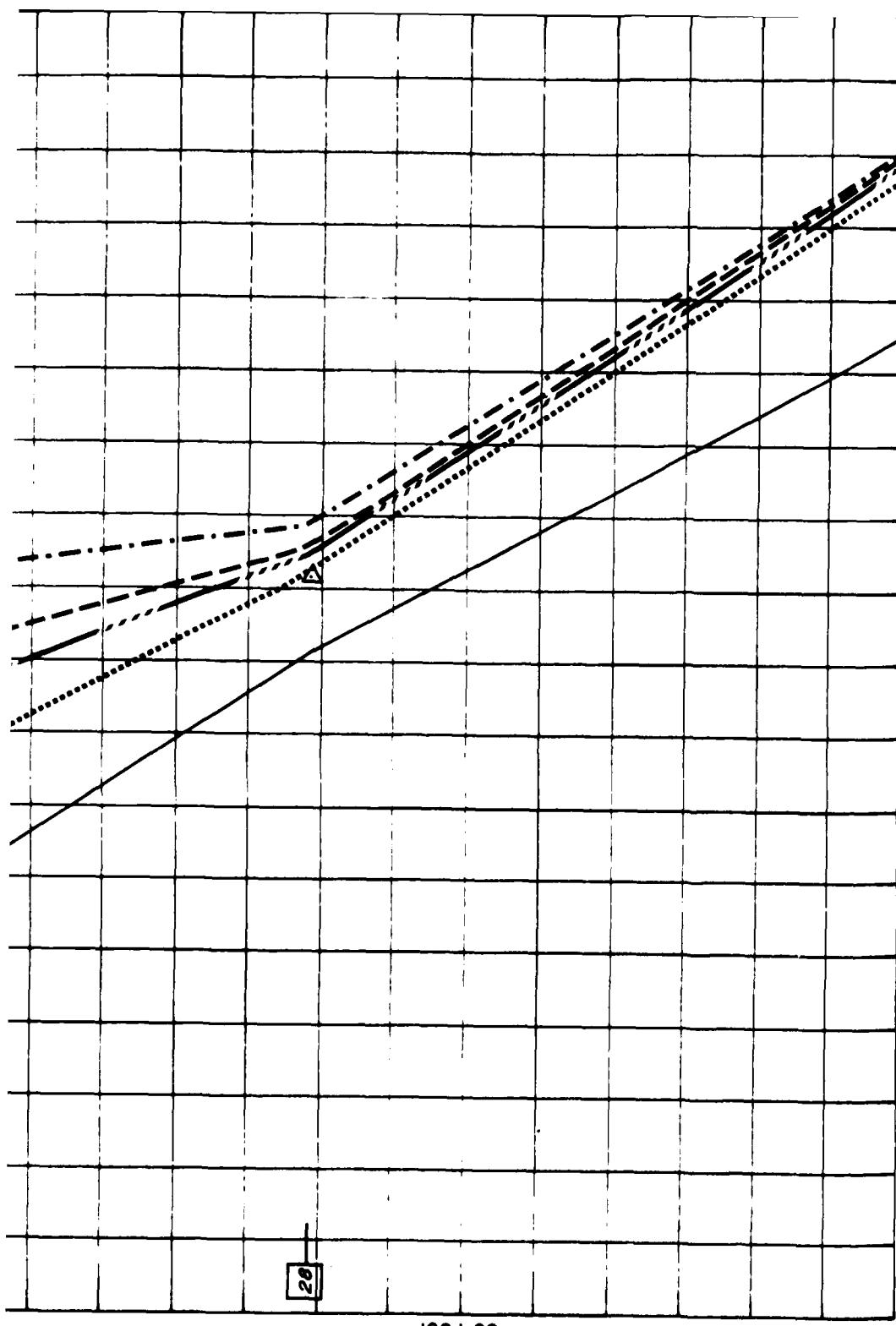
LEGEND

- Streambed
- - - - - 500 Year Flood
- - - - - 100 Year Flood
- - - - - 50 Year Flood
- 10 Year Flood
- | Top of Bridge Railing
- | Bridge Floor
- | Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- 25 Cross Section

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BUCKS & MONTGOMERY COUNTIES, PA
HIGH WATER PROFILES
 MOLASSES CREEK

3





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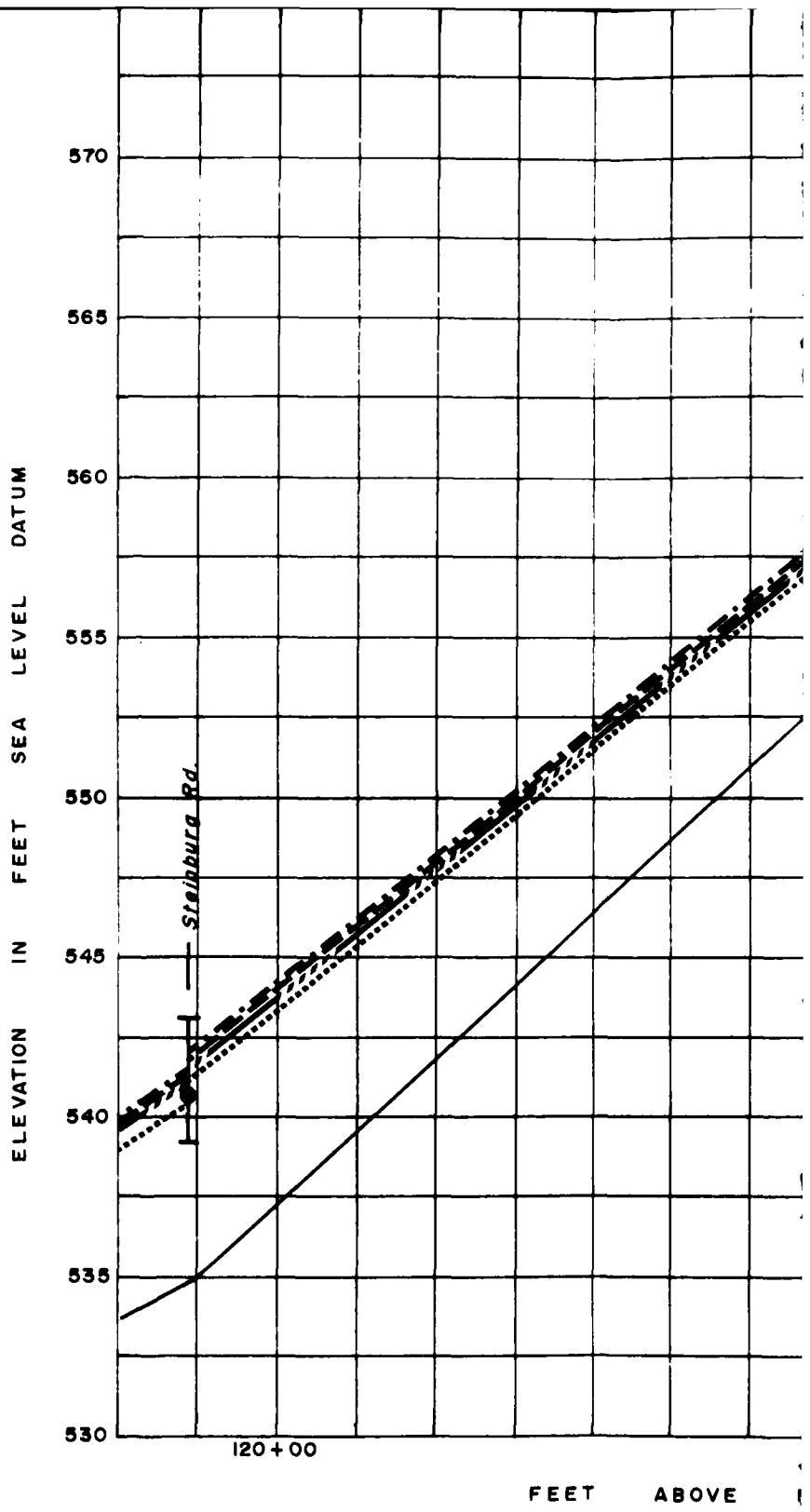
BUCKS & MO
HIGH
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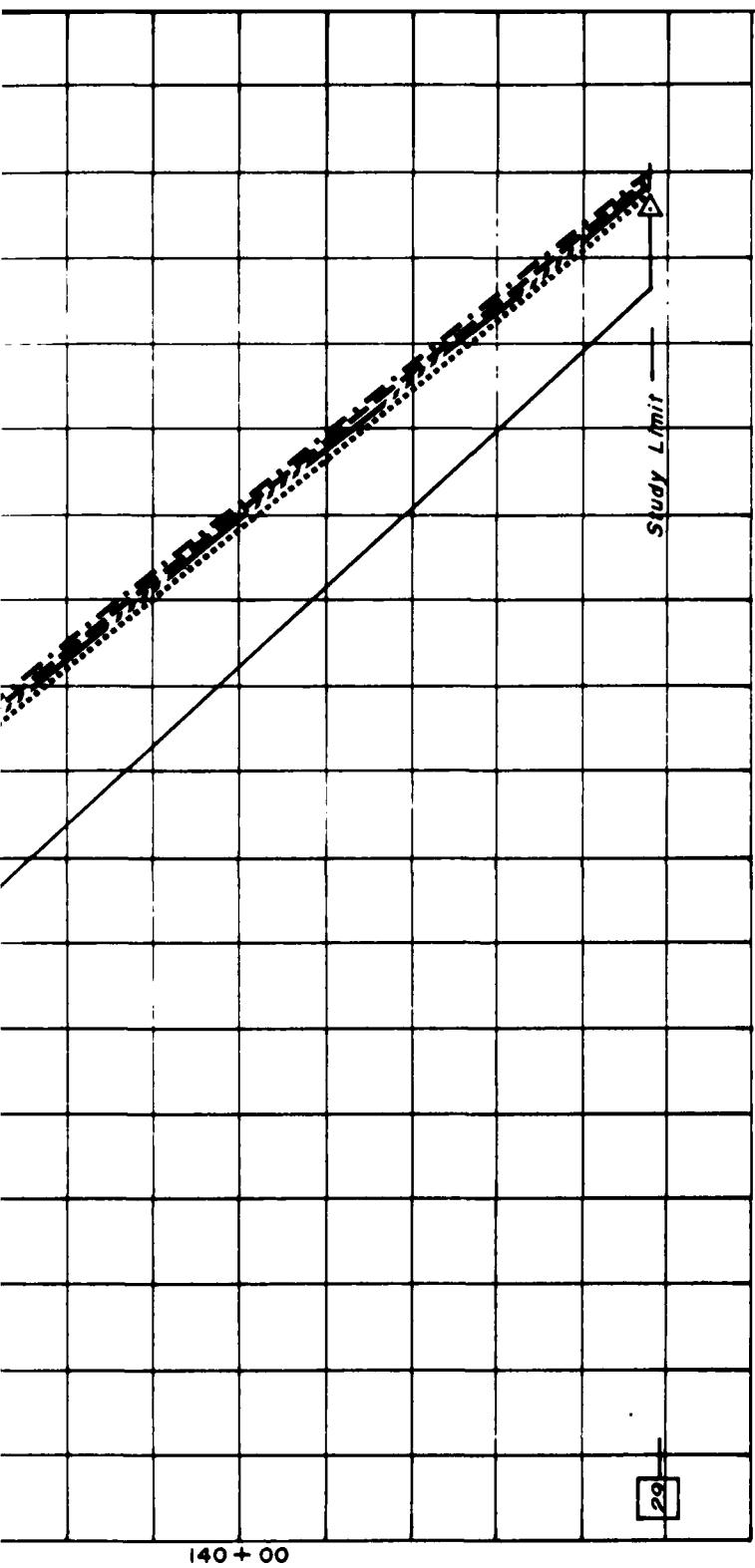
LEGEND

- Streambed
- - - - - 500 Year Flood
- - - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- △ Top of Low Bank
- 27 — Cross Section

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HIGH WATER PROFILES
MOLASSES CREEK

3





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LEGEND

- Streambed
- - - - - 500 Year Flood
- - - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (Railroad Bridge)
- Top of Low Bank
- Cross Section

29

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MOLASSES CREEK

PLATE 14

ELEVATION IN FEET (SEA LEVEL DATUM)

520

515

510

505

500

495

490

485

480

0+00

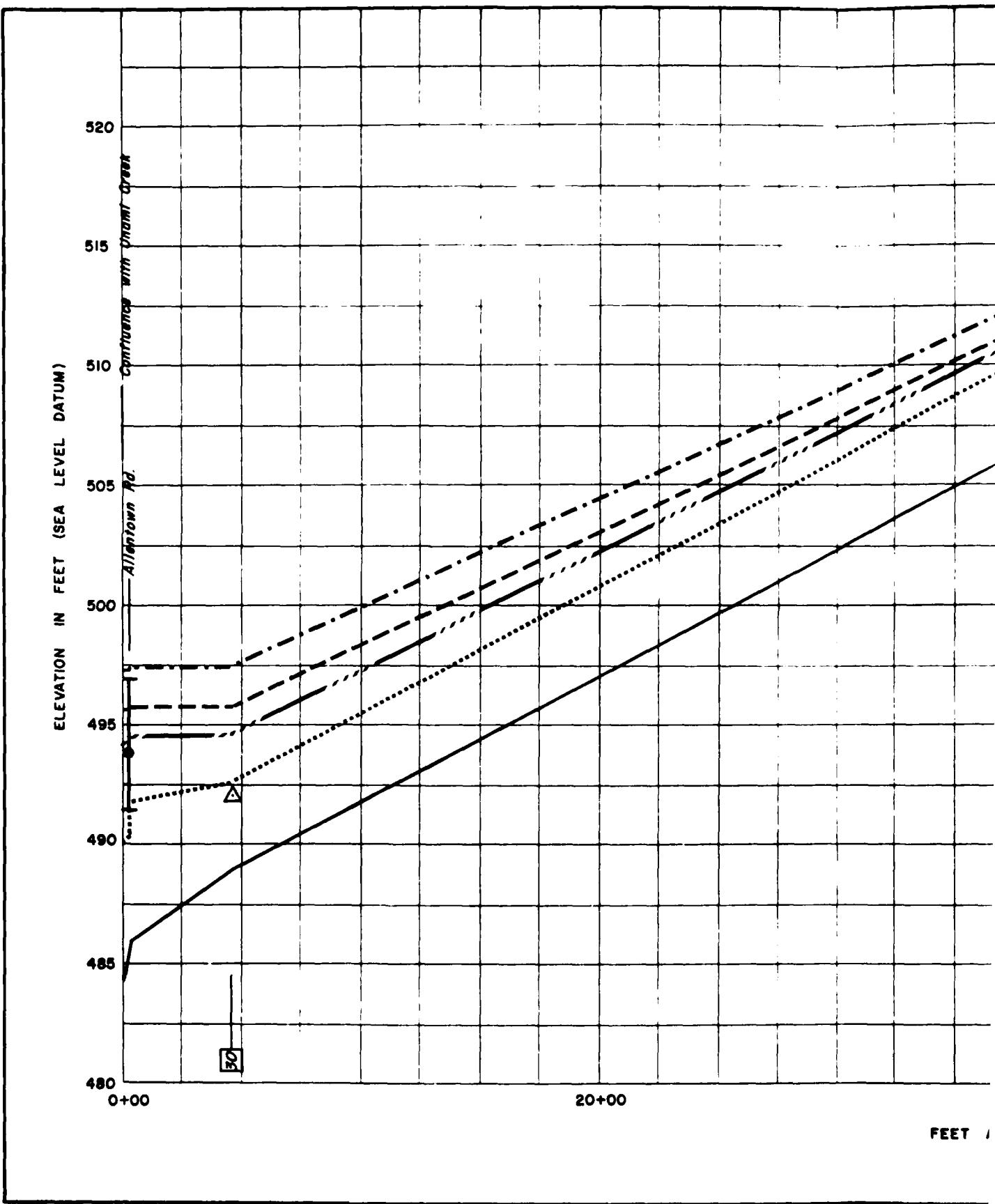
20+00

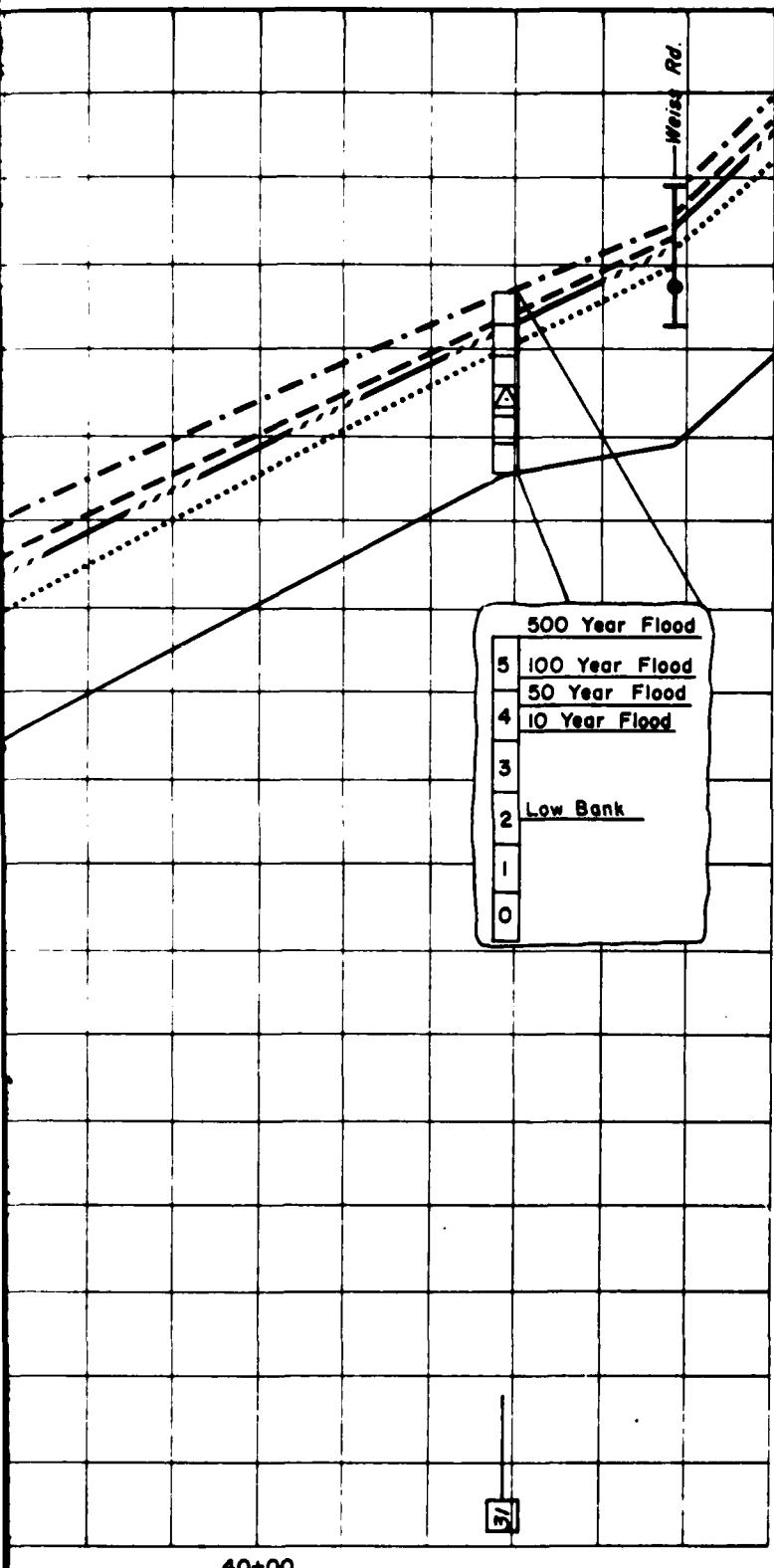
FEET

Continuation with County Creek

Affton Rd.

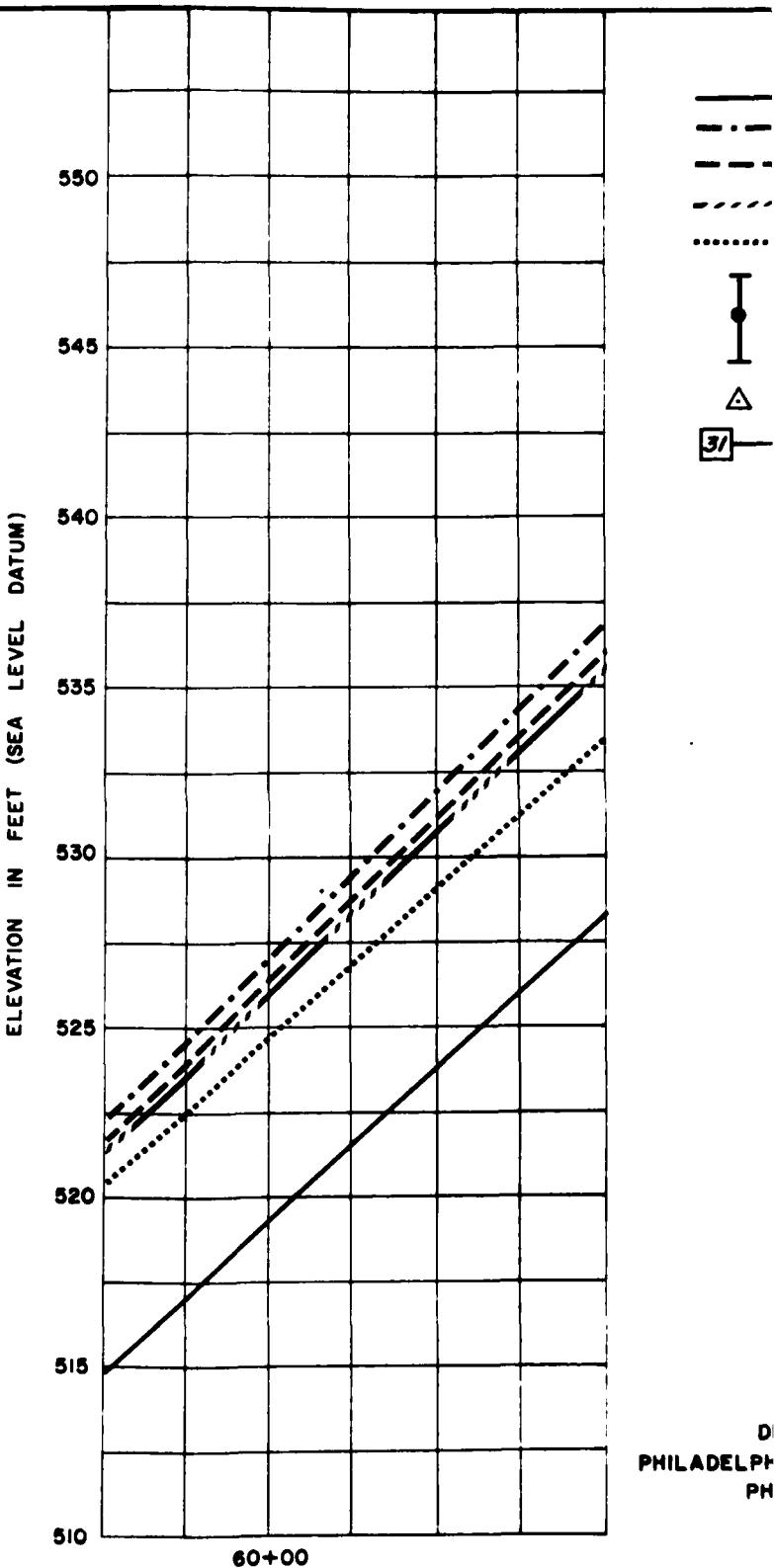
30





FEET ABOVE MOUTH

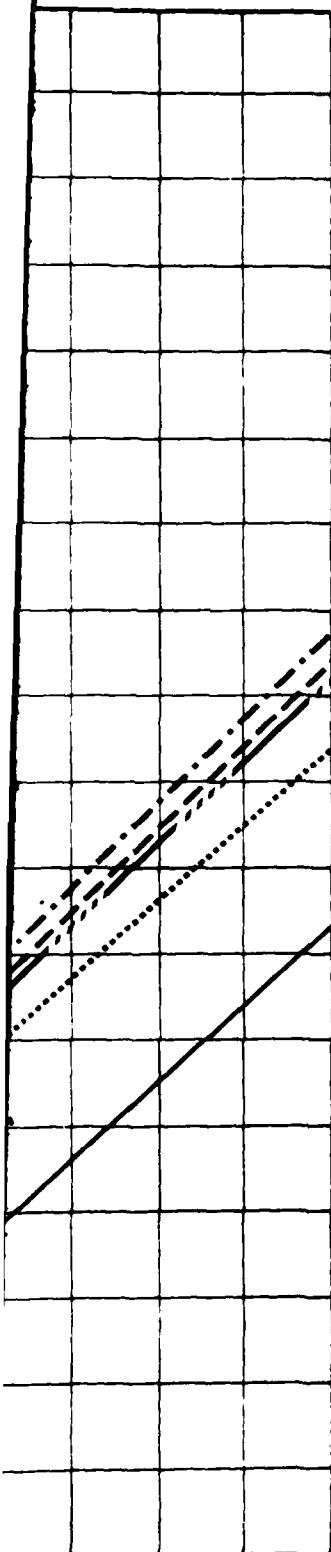
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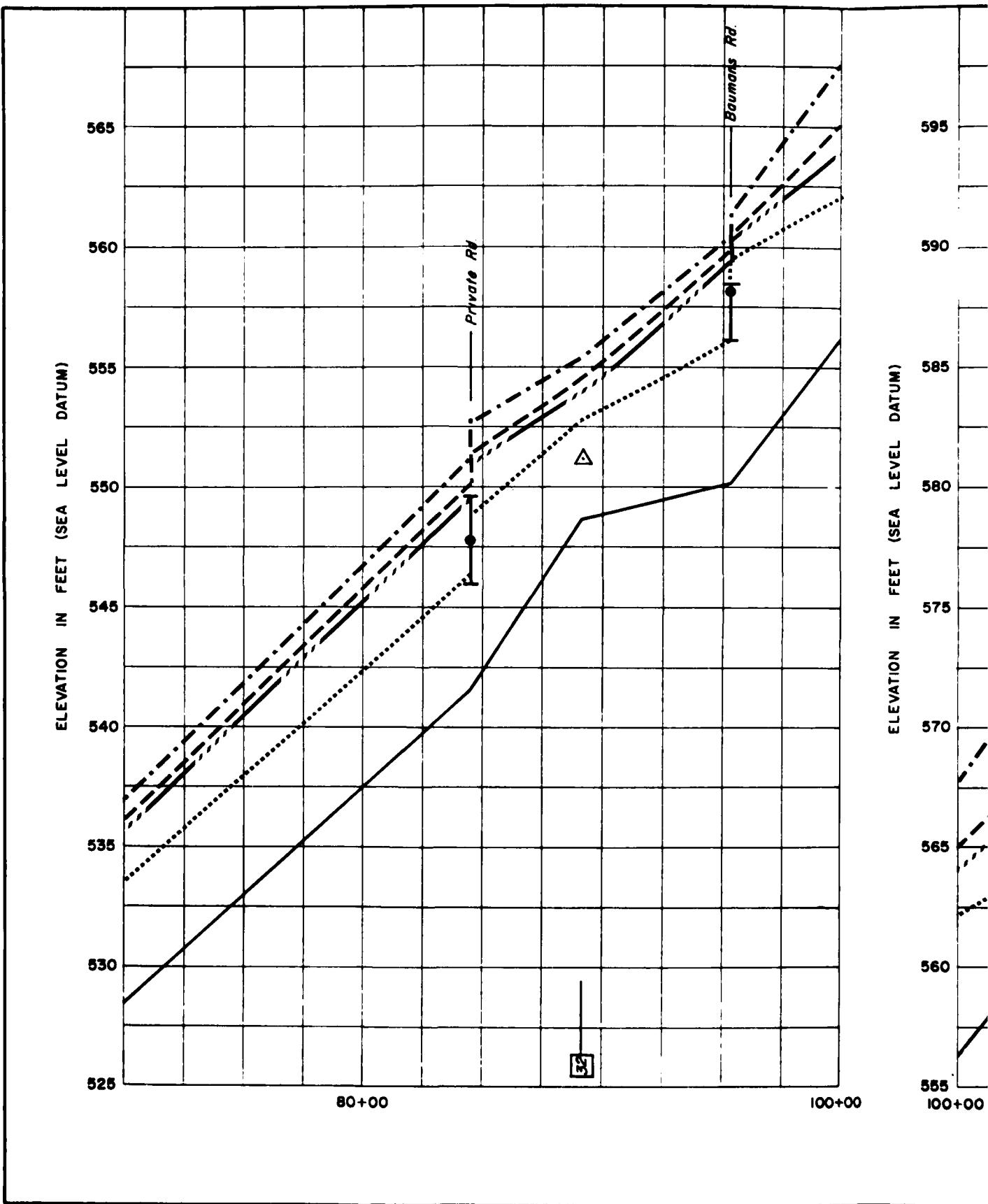
LEGEND

- Streambed
- - - - . 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - - 10 Year Flood
- Top of Bridge Railing
- Bridge Floor
- Underclearance
- ▲ Top of Low Bank
- Cross Section

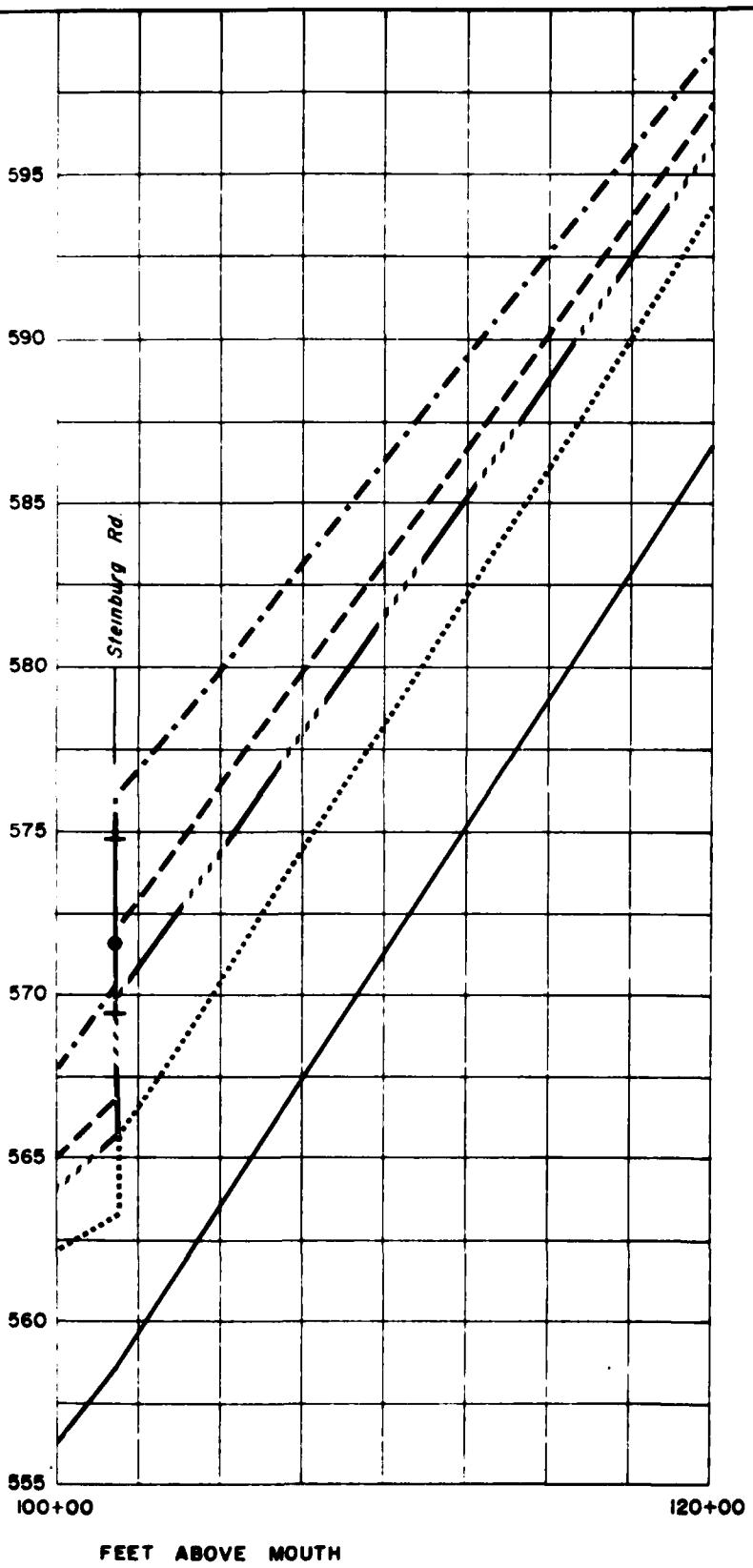
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SPECIAL FLOOD HAZARD
INFORMATION REPORT
UNAMI CREEK
BUCKS & MONTGOMERY COUNTIES, PA.
HIGH WATER PROFILES
LICKING CREEK

3

PLATE 15

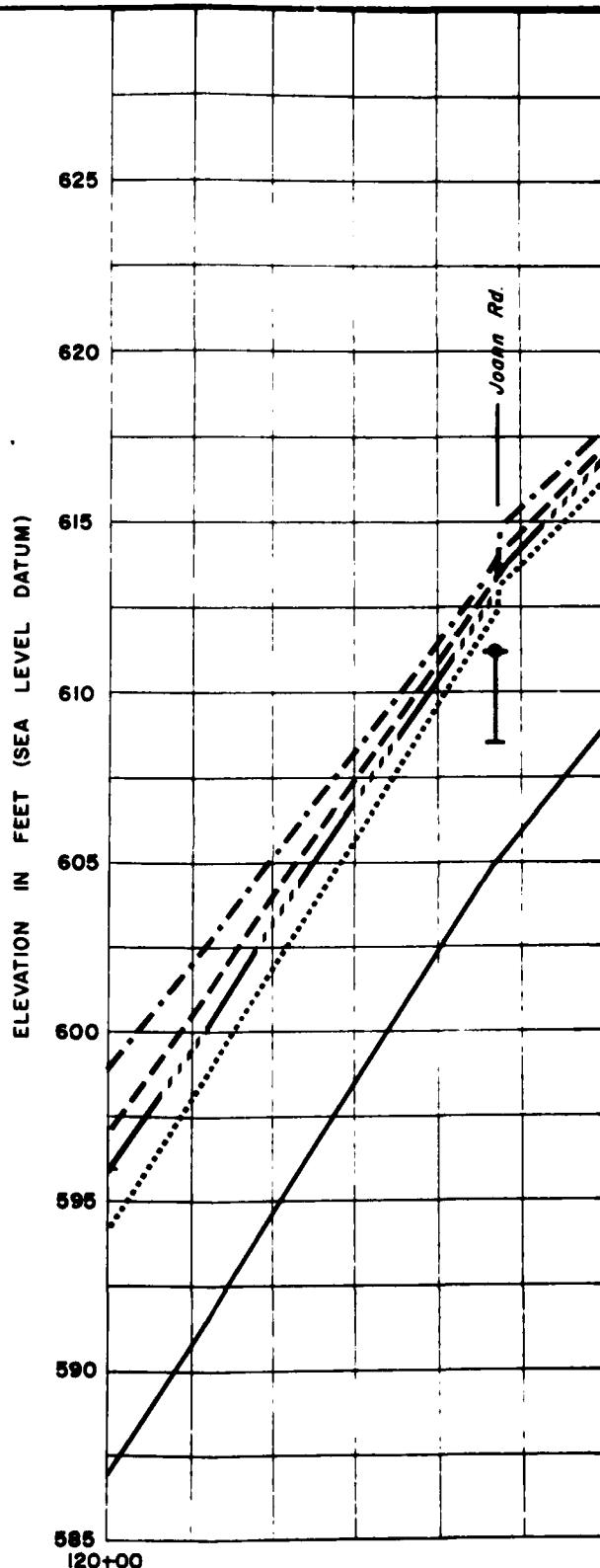


ELEVATION IN FEET (SEA LEVEL DATUM)



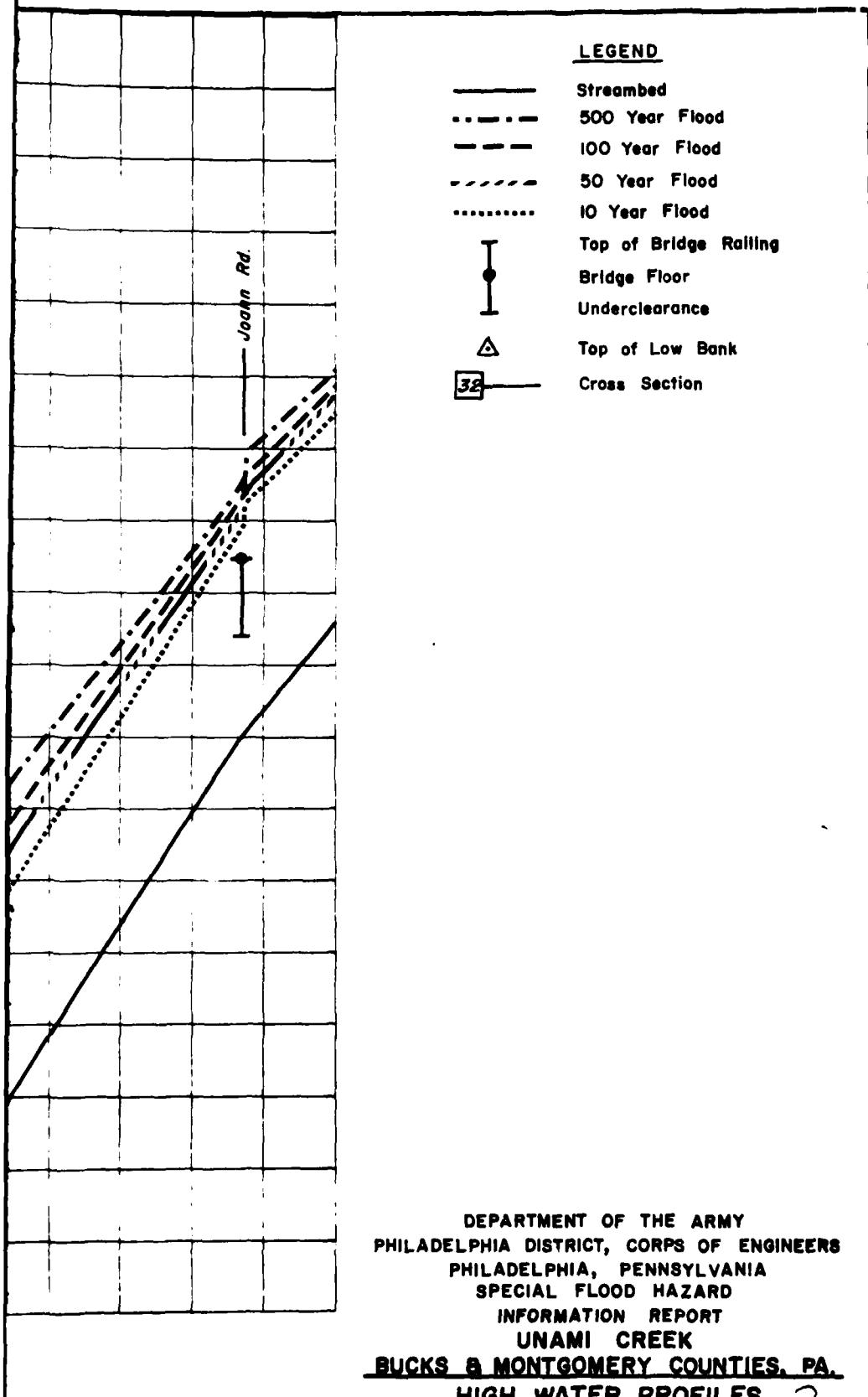
FEET ABOVE MOUTH

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BUCKS & MONTGOMERY COUNTIES, PA.
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 LICKING CREEK *3*

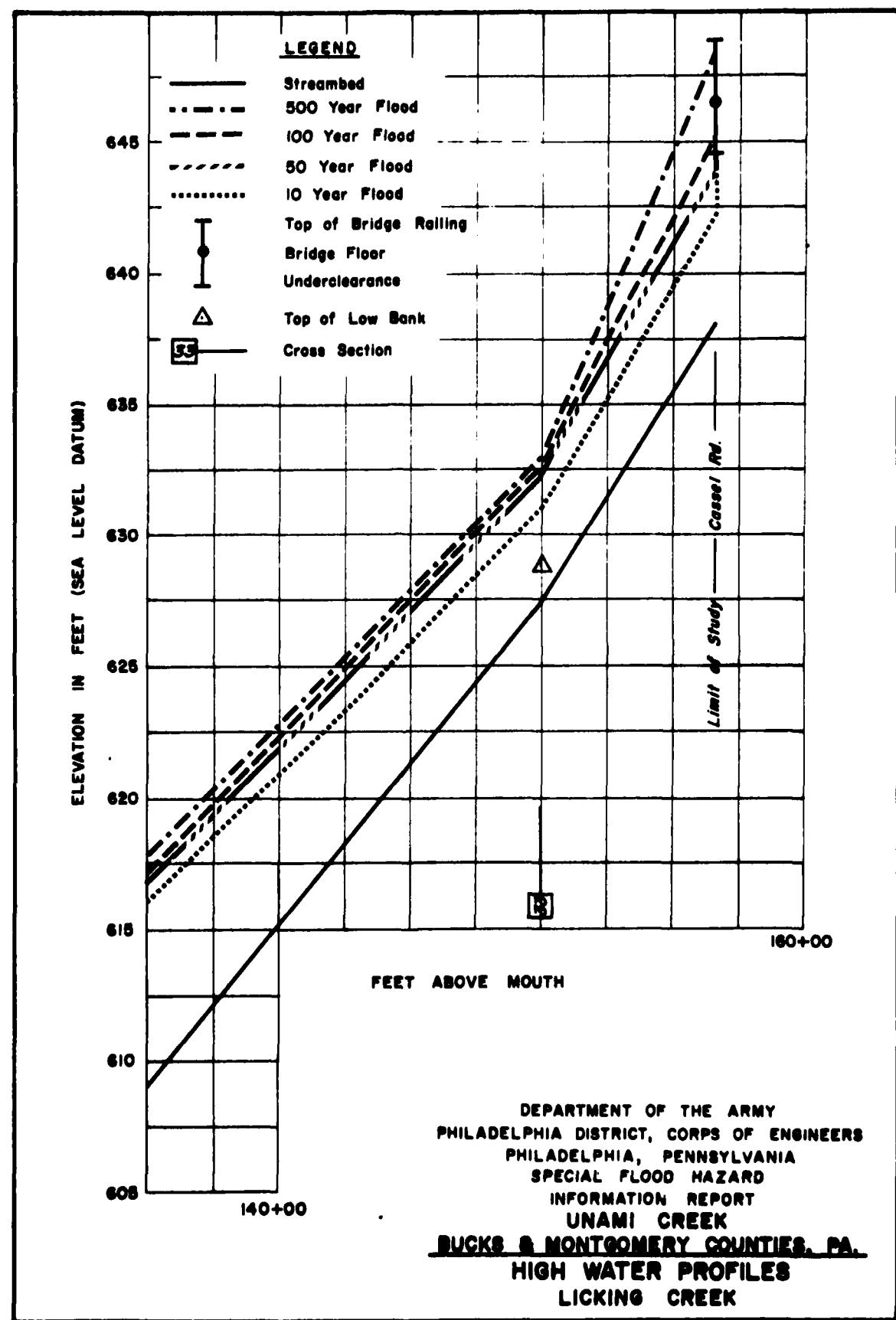
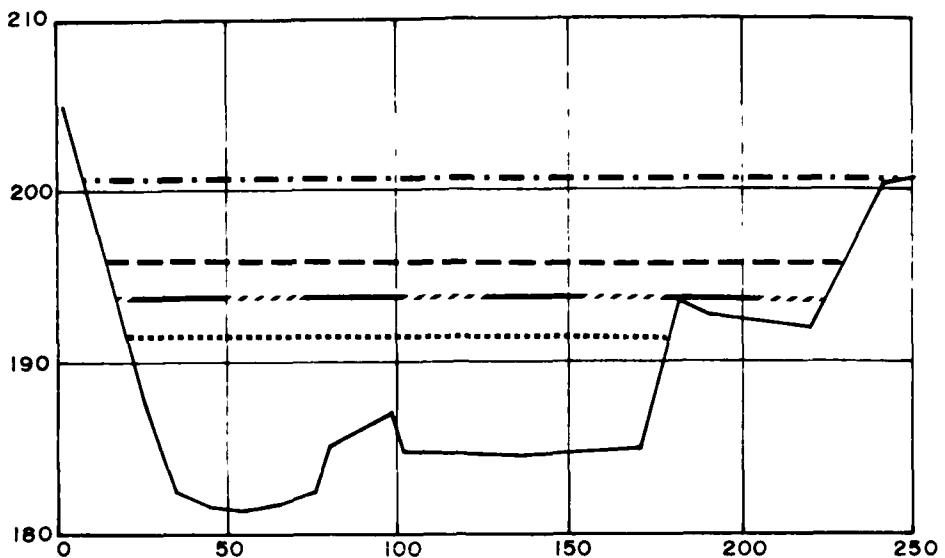


PLATE 17

ELEVATION IN FEET MEAN SEA LEVEL DATUM

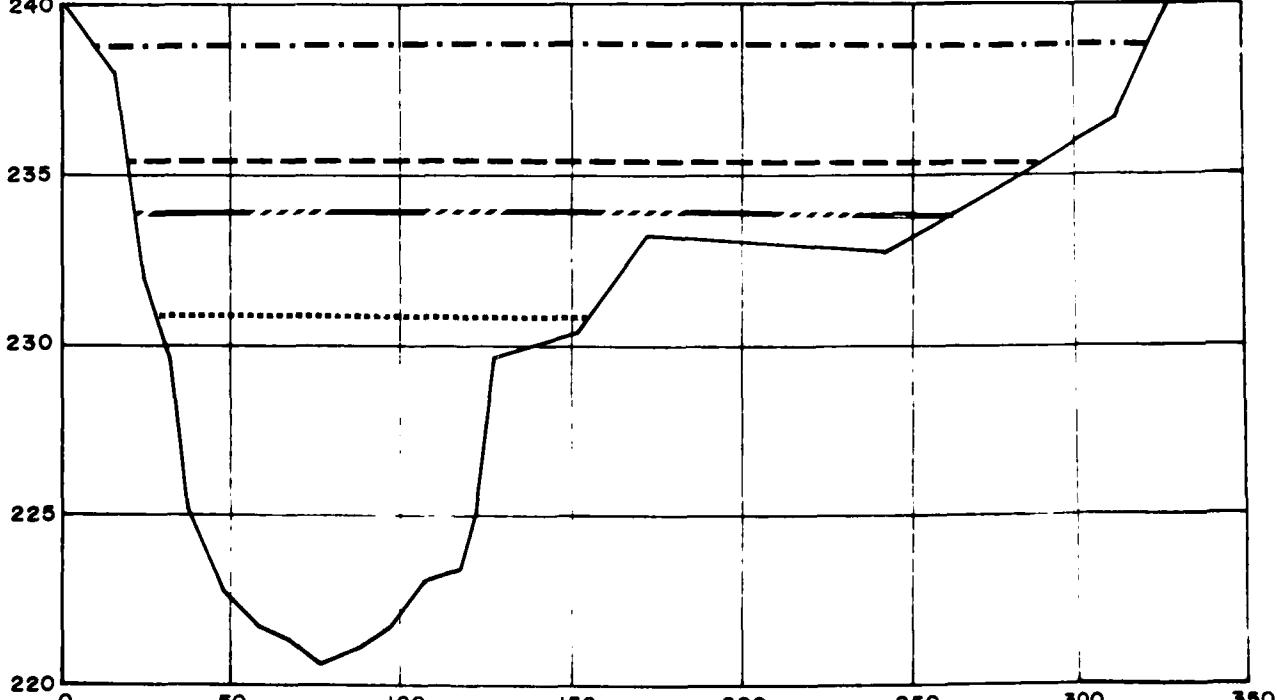


CROSS SECTION NO. 2
STA. 24 + 75

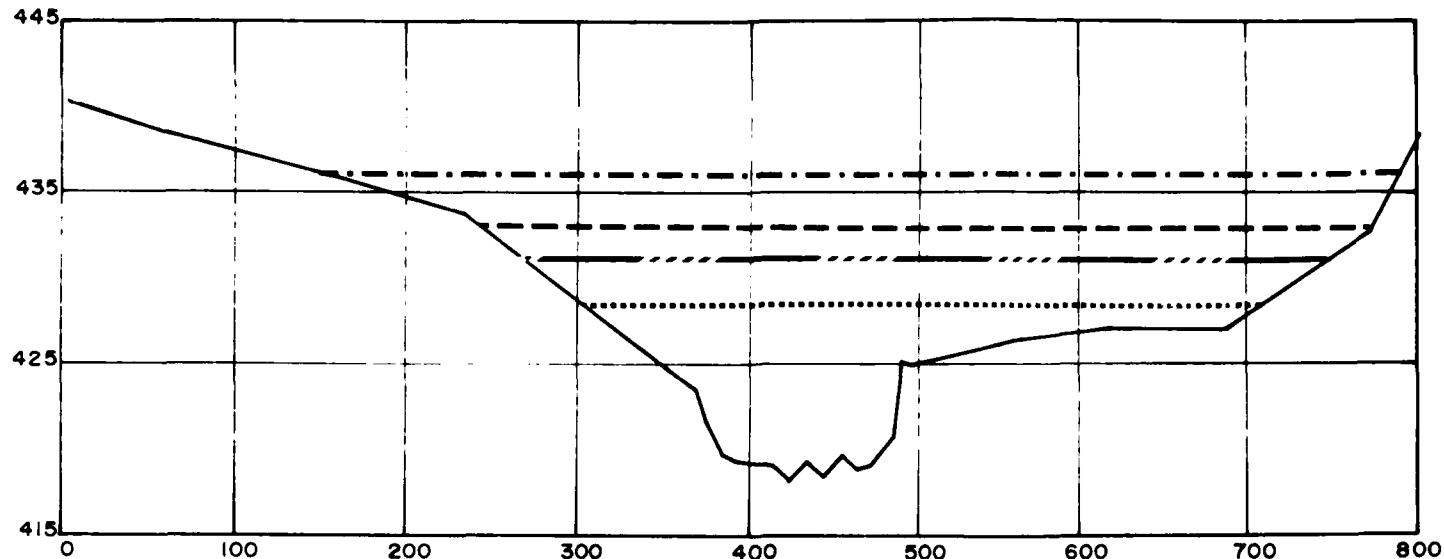
445
435
425
415

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ELEVATION IN FEET MEAN SEA LEVEL DATUM

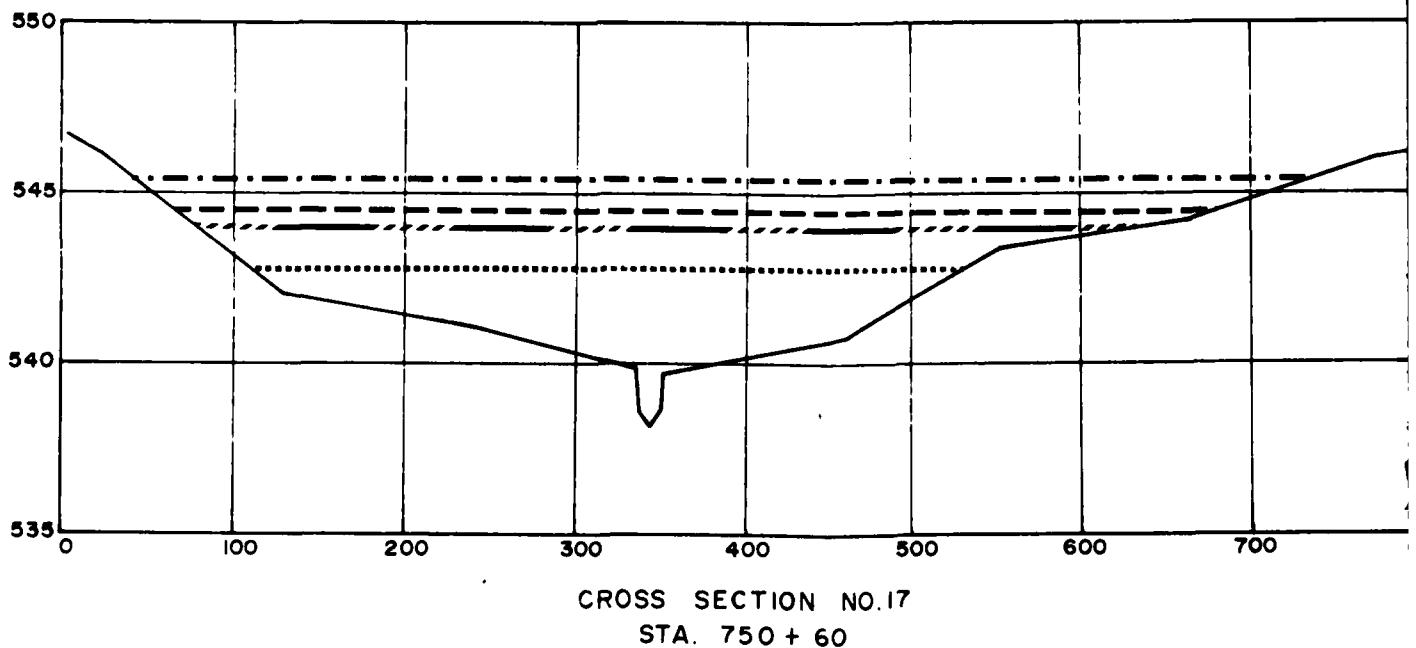


CROSS SECTION NO. 5
STA. 160 + 60



CROSS SECTION NO.11
STA. 436 + 35

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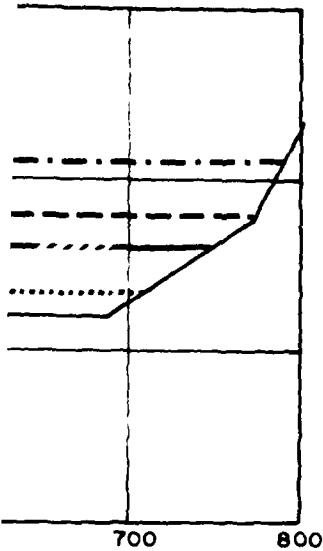
CROSS SECTION NO.17
STA. 750 + 60

PHILADEL
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HORIZONTAL STATIONING IN FEET

BUCKS
SEL



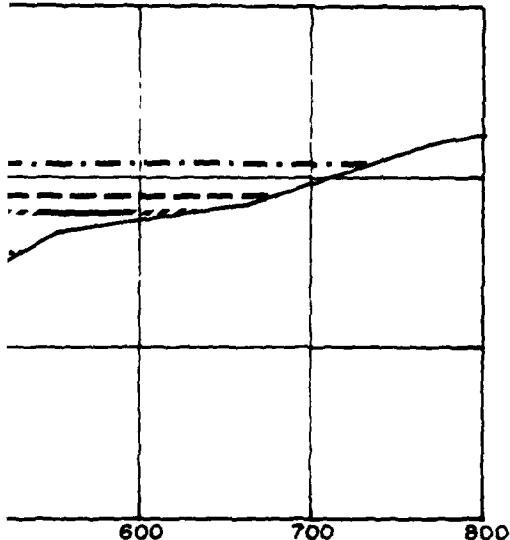
LEGEND

- Ground Line
- - - - - 500 Year Flood
- - - - 100 Year Flood
- - - - - 50 Year Flood
- - - - - - 10 Year Flood

NOTES:

The Cross Sections on Unami, Licking, Molasses and Schmoutz Creeks not shown in this report are on file at the Philadelphia District Corps of Engineers and are available for inspection upon request.

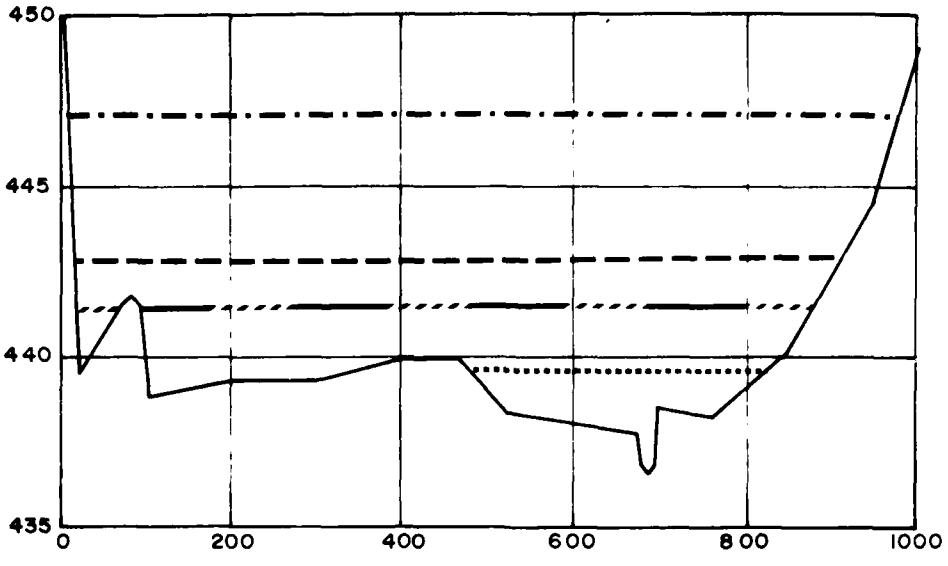
Cross Sections taken looking Down-stream.



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 UNAMI CREEK

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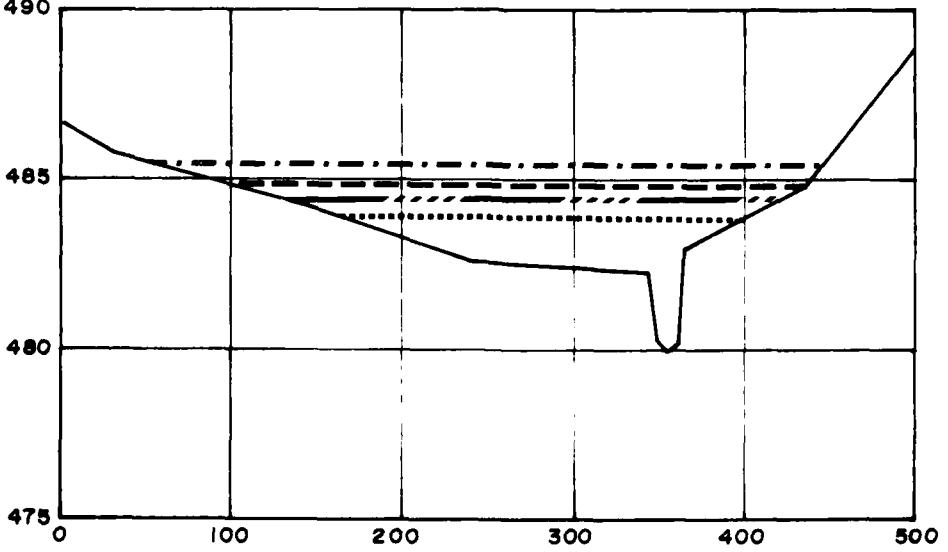
+
ELEVATION IN FEET MEAN SEA LEVEL DATUM



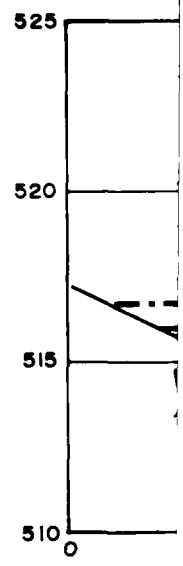
CROSS SECTION NO.20
STA. 37 + 75
SCHMOUTZ CREEK



ELEVATION IN FEET MEAN SEA LEVEL DATUM

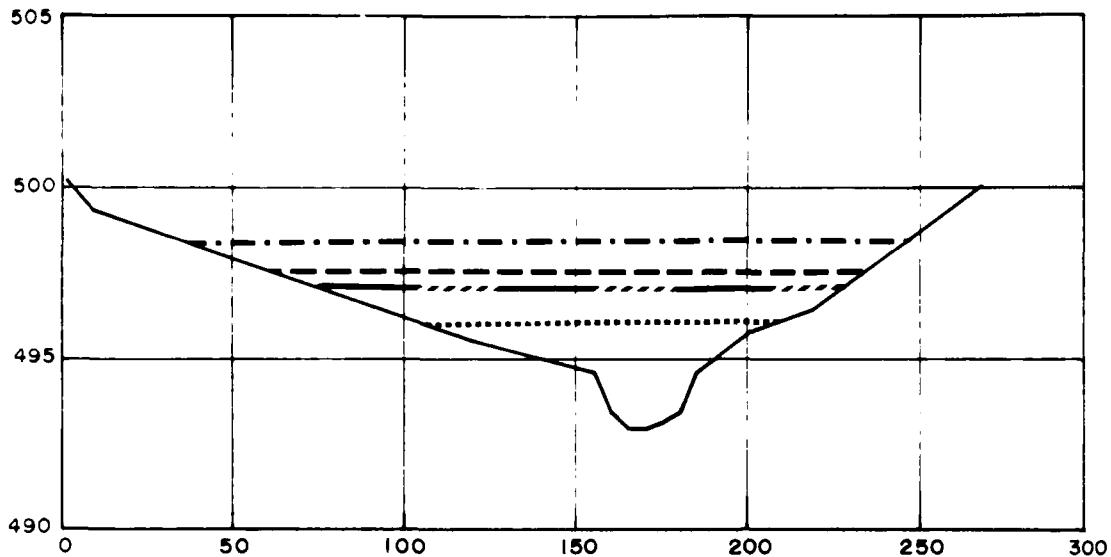


CROSS SECTION NO.22
STA. 110 + 35
SCHMOUTZ CREEK

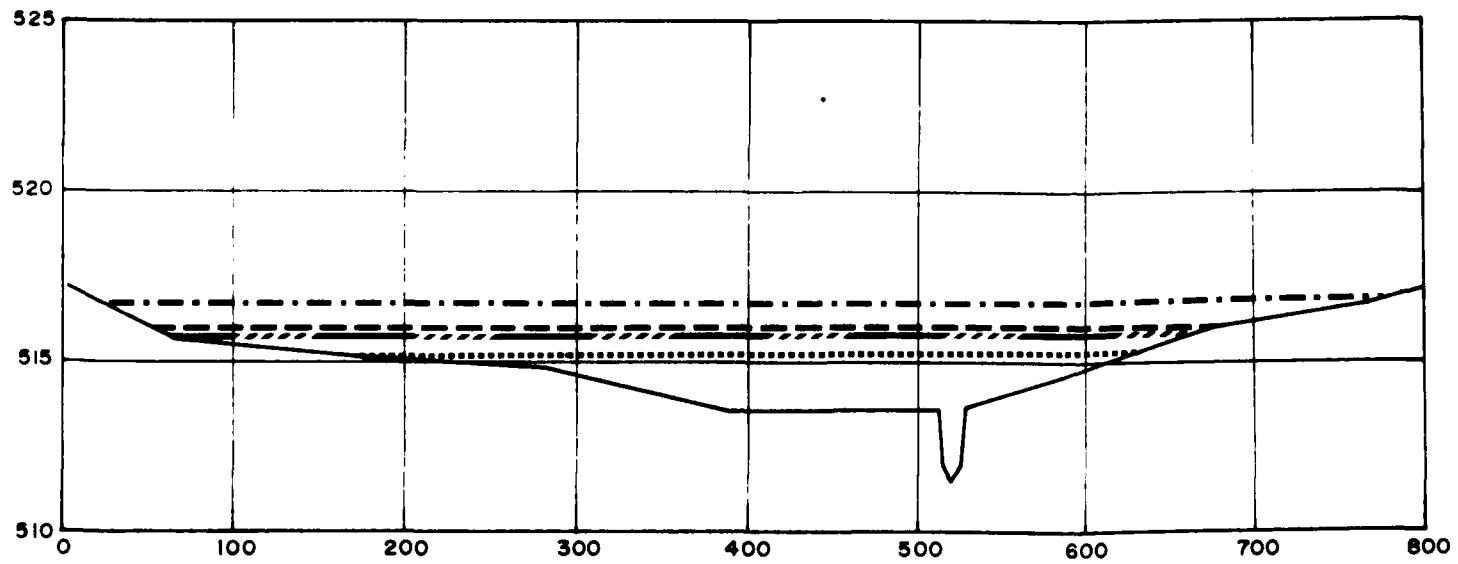


HORIZONTAL STATION

+



CROSS SECTION NO. 26
STA. 33 + 40
MOLASSES CREEK



CROSS SECTION NO. 31
STA. 47 + 25
LICKING CREEK

HORIZONTAL STATIONING IN FEET

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LEGEND

- Ground Line
- 500 Year Flood
- 100 Year Flood
- 50 Year Flood
- 10 Year Flood

NOTES:

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Cross Sections taken looking Down-stream.

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LICKING, MOLASSES AND SCHMOUTZ CREEKS

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